

DENEY RAPORU TEST REPORT

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Sakarya Yolu / Ankara Yolu 20. Km. Sincan-Göğüsönü C. Blok No:1 Kat:2 Yenimahalle / ANKARA Tel: 0312 351 75 65



Test
İS EN ISO/IEC 17025
AB-1333-T

AB-1333-T

OPT2507

02-25

Müşterinin Adı / Adresi: BSI AYDINLATMA SAN. TİC. A.Ş./ Başkent OSB,20.Cad. B/3 Blok NO:4
(Customer Name / Address) Malıköy/Sincan/ANKARA

Talep Numarası: 250206
(Order No)

Ürünün Adı ve tanımı: FL9228 iErgo
(Name and Identity of Test Item)

Ürünün Kabul Tarihi: 6.02.2025
(The Date of Receipt of Test Item)

Deney Tarihi: 07.02.2025 - 10.02.2025
(Date of Test)

Açıklamalar: Numuneye İESNA LM 79-19 standardı uyarınca testler uygulanmıştır.
(Comments) Test were applied to sample according to IESNA LM 79-19 standards.

Türk Akreditasyon Kurumu (TÜRKAK) deney raporlarının tanınırlığı konusunda Avrupa Akreditasyon Birliği (EA) ile Çok Taraflı Anlaşma ve Uluslararası Laboratuvar Akreditasyon Birliği (ILAC) ile karşılıklı tanıma anlaşması imzalamıştır.

Turkish Accreditation Agency (TURKAK) is a signatory to the European co-operation for Accreditation (EA) Multilateral Agreement (MLA) and to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the recognition of test reports.

Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metodları bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda verilmiştir.

The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report.

Bu rapor; firmamıza ulaşan numunelere deney ve/veya deneyler uygulanarak elde edilmiştir.

This report was prepared after applying test/tests to the samples that are sent to our company.

Müşteriye ait diğer numuneleri kapsamaz.

Note that this report does not involve other samples of the customer.

* İşaretsiz deneyler veya akreditasyon numarasının yer almadığı sayfalar, akreditasyon kapsamı dahilinde değildir.

*signed tests or the papers which have not the accreditation number are not in the scope of accreditation.

Onay Tarihi

Date of Approval

10.02.2025



Deney Sorumlusu

Person in Charge of Test

Burakcan GÜNAYDIN

Laboratuvar Genel Müdürü

Head of Testing Laboratory

Burakcan GÜNAYDIN

Bu rapor laboratuvarın yazılı izni olmadan kısmen veya tamamen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.
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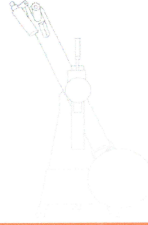
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**1.3 Ürün Bilgileri (Information of Test Item)**

Ürünün Adı: (Name of Test Item)	FL9228 iErgo
Marka / Model: (Mark / Model)	BSI AYDINLATMA/ FL9228 iErgo
Ürünün Tanımı / Tipi: (Product description / Type)	DEKORATİF LED AYDINLATMA ARMATÜRÜ DECORATIVE LED LIGHTING ARMATURE
Sürücü Tipi / Modeli: (Model of Driver)	VOSSLOH-SCHWABE/ Type ECXd 1050.446
Lens Marka/Modeli: (Lens Mark/ Model)	—
LED Modülü: (LED Module)	—
LED Modeli: (LED Model)	NICHIA219FT V2X36
Ürünün Boyutları / cm: (Product dimensions / cm) (Müşteri Beyanı)	Uzunluk / Çap: 19 (length / diameter) Genişlik: 30 (Width) Yükseklik: 18 (height)
Ürünün Ağırlığı / kg: (Product weight / kg)	4.5kg
Beyan Besleme Gerilimi/Beyan Gücü (Rated Supply Voltage/Rated Power)	220-240 V AC / 48W

1.4 Çevre Şartları (Environmental Conditions)

Sıcaklık - °C: (Temperature - °C)	24.8
Nem: (Humidity)	%34
Hava Akımı - m/s: (Air flow - m/s)	0

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1.5 Deney Standartları (Test Standard)

Deneyler aşağıdaki standartlara göre yapılmıştır.

(The tests were performed according to following standards)

IESNA LM 79-19	Katı Hal Aydınlatma Ürünlerinin Elektriksel ve Fotometrik Ölçümleri. Electrical and Photometric Measurements of Solid State Lighting Products.
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1.6 Belirsizlik Açıklamaları (Uncertainty Explanations)

Ölçüm belirsizliği, genişletilmiş belirsizlik olup belirsizlik kapsam faktörü $k = 2.0$ çarpılarak elde edildi. Güvenirlilik düzeyi %95'tir.

(The measurement is sum uncertainty and extended uncertainty, and the composite uncertainty coverage factor $k = 2.0$ is derived. Reliability level is 95%.)



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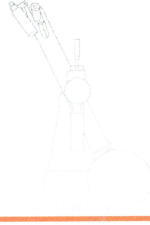
**1.7 Elektriksel Ölçüm Sonuçları (Electrical Measurement Results)**

Gerilim -Volt (Voltage - Volt)	Akım - Amper (Current - Amper)	Güç - Watt (Power - Watt)	Güç Faktör (Power Factor)
220.4	0.275	50.57	0.8322

1.8 Ölçüm Sonuçları Özeti (Measurement Results Summary)

Işık Akısı - Lümen: (Luminous Flux - Lumen)	5477
Toplam Yukarı Işık(lümen-%): Total Up Light(lumen-%)(ULOR)	0.229 - %0
Verimlilik - lm/w: (Efficiency - lm/w)	108.31
Renksel Geri Verim / CRI: (CRI: Color Render Index)	83.5
Renk Sıcaklığı / Kelvin: (CCT: Colarated Color temprature / Kelvin)	3115
Test sırasında SSL ürünün yanma pozisyonu: (Burn position of SSL during testing)	Kullanım amacına uygun olarak In accordance with the intended use
Stabilizasyon süresi /dakika: (Stabilization time / Minute)	90 dakika 90 minutes
Stabilizasyon dahil olmak üzere ürünün toplam çalışma süresi	130 dakika 130 minutes
Uygulanan düzeltme faktörleri: (Applied correction factors)	-





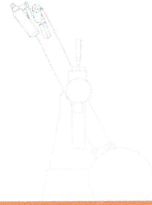
2. Deney Sonuçları (Test Results)

2.1 Entegre Küre Sonuçları (Integrating Sphere Measurement Results)

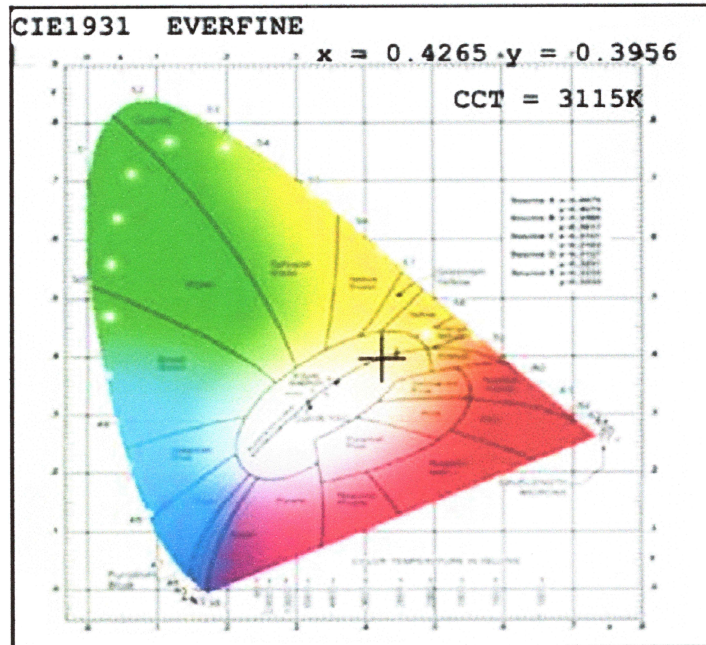
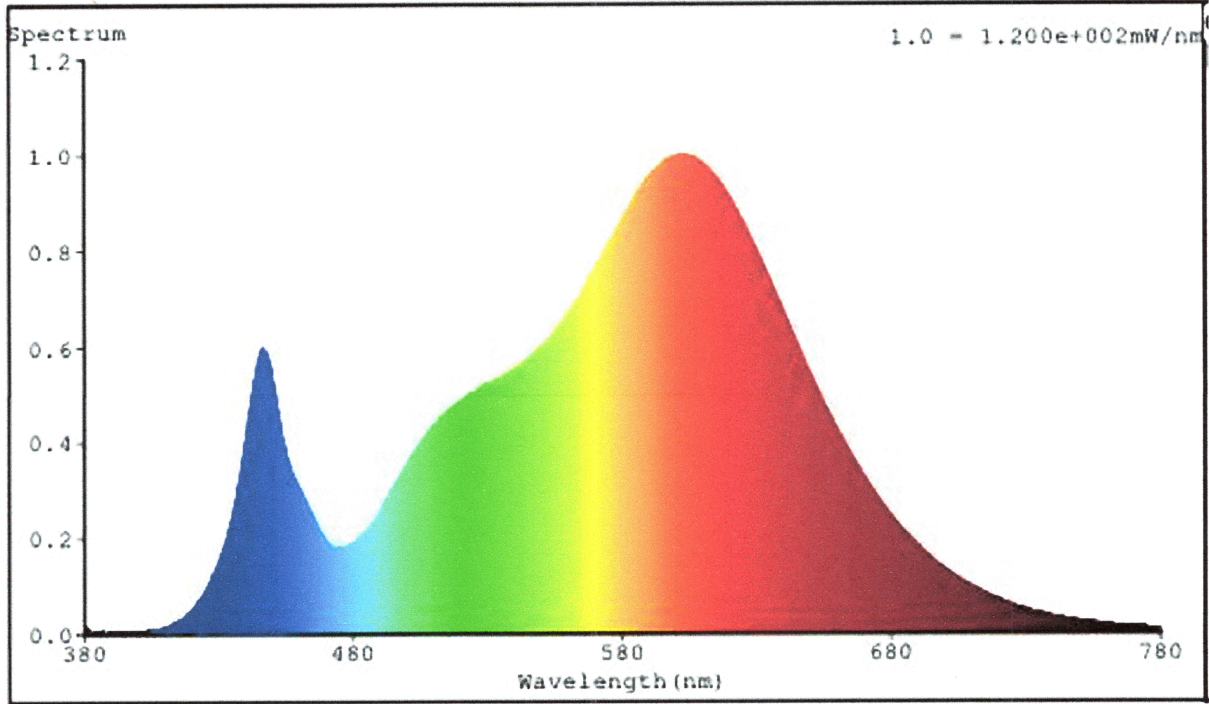
Renklilik Koordinatı: (Chromaticity Coordinate)	x: 0.4265 y:0.3956/ u':0.2474 v':0.5164 (duv:-1.9e-03) Dx,Dy:-0.0026, -0.0056
Renk Sıcaklığı - Kelvin: (CCT: Colarated Color temprature - Kelvin)	3115
Renksel Geri Verim: (CRI: Color Render Index)	83.5
Ld:Baskın Dalga boyu -nm: (Ld:dominant wavelength - nm)	583.1
Lp:Tepe Dalga boyu -nm: (Lp:Peak wavelength - nm)	603

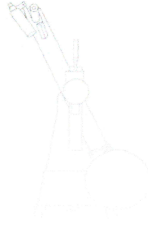


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2.1.1 Entegre Küre Renkserlik Grafiği ve Spektrum (Integrating Sphere Chromaticity Diagram and Spectrum)



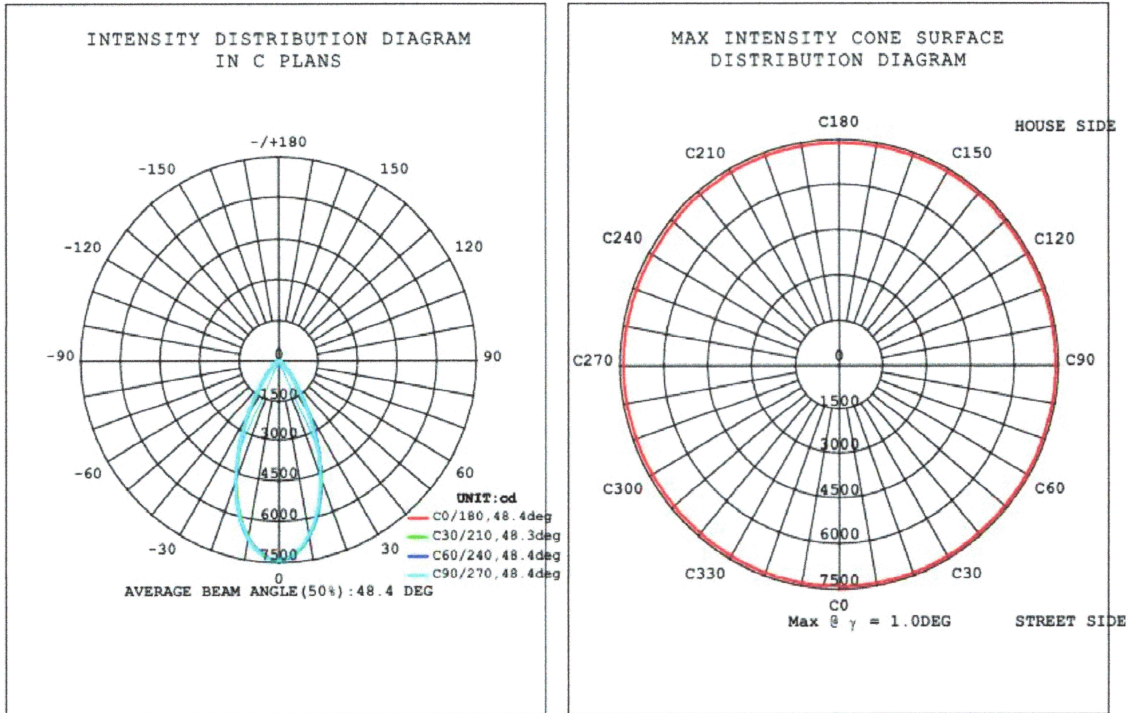


2.2 Gonyofotometre Sonuçları (Goniophotometer Measurement Results)

Işık Şiddeti (I max): (Luminous intensity(Cd))	7404	C: (C Range)	0-360 derece 0-360 degree
Aydınlatma Çıkış Oranı: (LOR:Lighting Output Ratio)	100%	Düzlemler arası açı adımı C: (C Interval)	5 derece 5 degree
Ort. Işıma Açısı: (Average Beam Angle)	48.4 derece 48.4 degree	Gama: (Gamma range)	0-180 derece 0-180 degree
Ölçme uzaklığı(metre): (Test Distance (meter))	2.459	Düzlem içi açı adımı Y: (Y Interval)	1 derece 1 degree
Toplam Akı(lm): (Total flux)	5477		

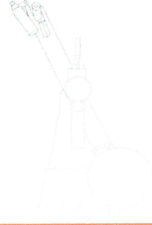
2.2.1 Işık Yeğirliği Polar Eğrisi

(Luminous Intensity Distribution Diagram)

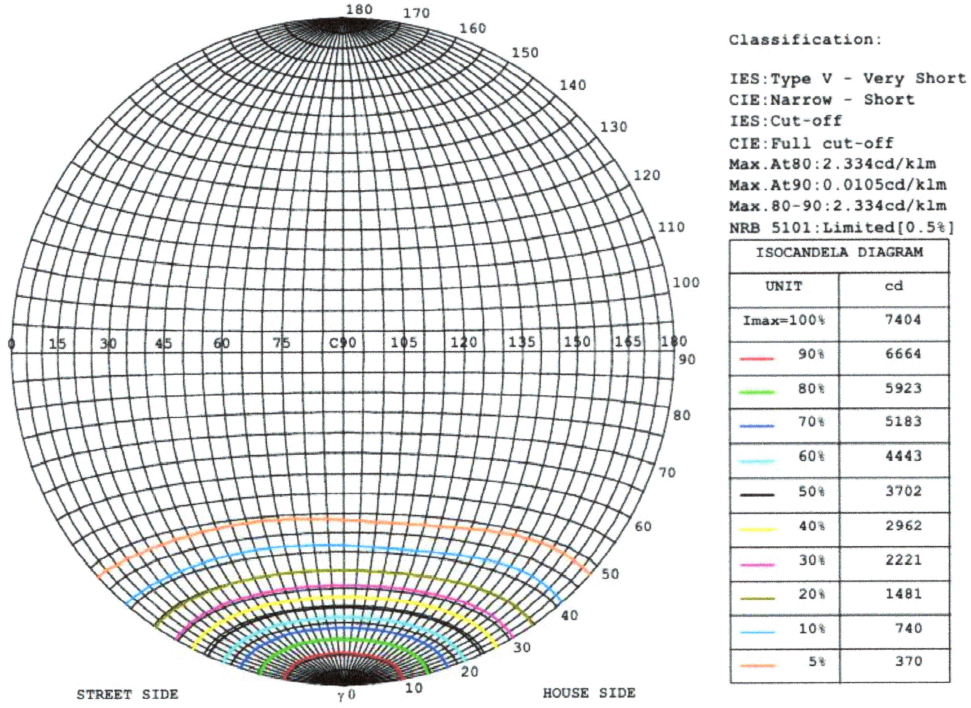


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2.2.3 Isocandela Diyagramı (Isocandela Diagram)

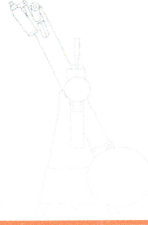


Açıklamalar (Descriptions)

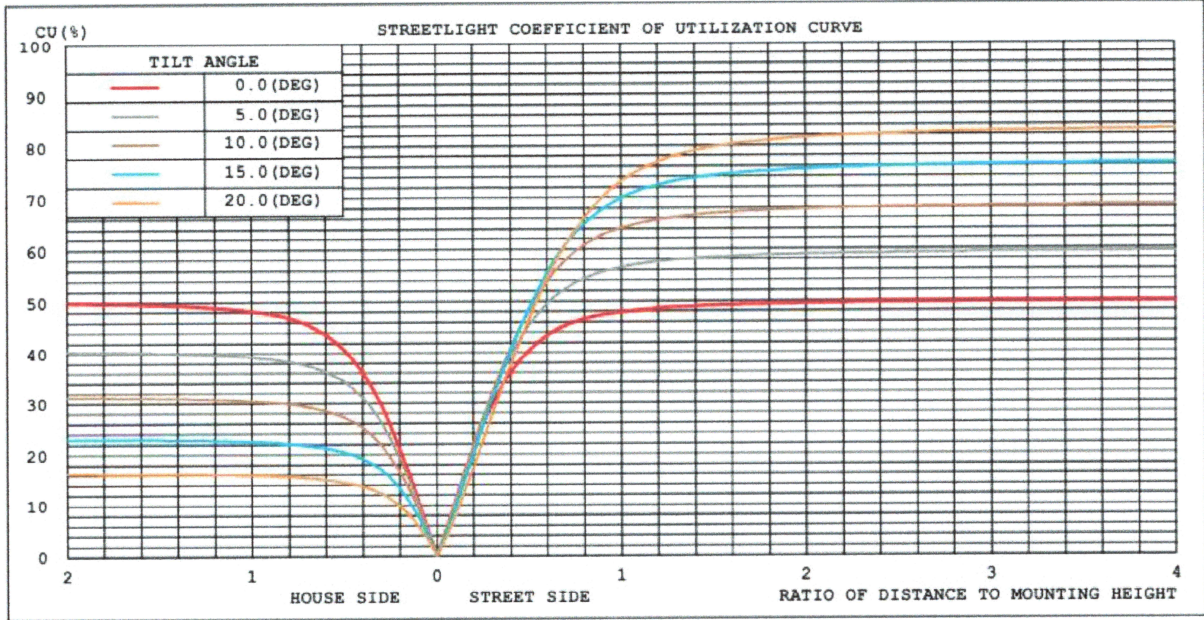
House Side: Aydınlatma Armatürünün bağlantı direği tarafına attığı ışık şiddeti

Street Side: Aydınlatma Armatürünün yol tarafına attığı ışık şiddeti





2.2.4 Isolux Diyagramı (Isolux Diagram)

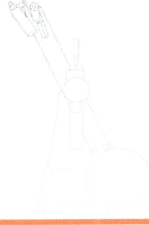


Açıklamalar (Descriptions)

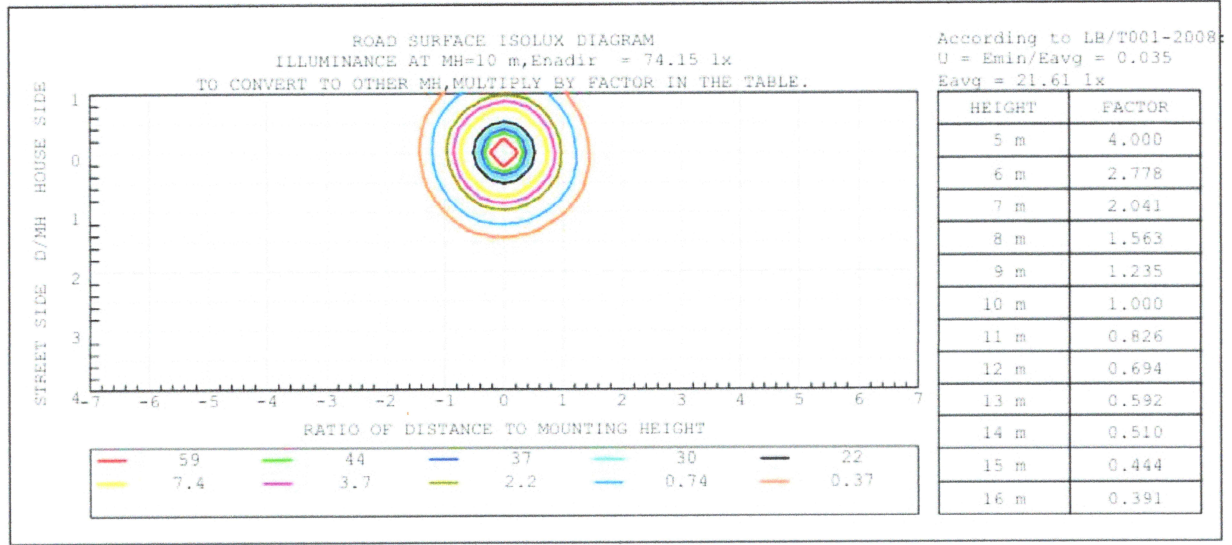
Tilt Angle: Montaj açısı



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2.2.5 Yol Düzlemi Isolux Diyagramı (Road Surface Isolux Diagram)

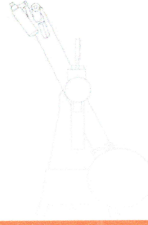


Açıklamalar (Descriptions)

Yol düzlemi üzerine aydınlatma armatürünün düşürdüğü aydınlanma düzeyini ifade etmektedir.
It refers to the level of illumination dropped by the lighting luminaire on the road surface



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2.2.6 Bölgesel Işıklık Diyagramı (Zonal Flux Diagram)

ZONAL FLUX DIAGRAM

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	6665	6732	6714	6729	6666	6630	6594	6622	0- 10	670.1	670.1	12.2, 12.2
20	4708	4802	4807	4813	4756	4675	4641	4653	10- 20	1612	2282	41.7, 41.7
30	2292	2369	2377	2404	2359	2285	2260	2247	20- 30	1587	3869	70.6, 70.6
40	819.3	858.0	862.8	877.8	841.4	817.2	788.9	794.6	30- 40	997.2	4776	87.2, 87.2
50	300.3	316.5	312.2	319.2	306.4	297.1	291.6	290.5	40- 50	396.3	5172	94.4, 94.4
60	130.0	135.3	133.7	134.9	131.7	129.3	127.1	127.0	50- 60	182.4	5355	97.8, 97.8
70	52.25	54.34	53.93	54.68	53.96	52.04	51.77	51.03	60- 70	86.96	5442	99.3, 99.3
80	11.07	11.90	12.31	12.62	12.23	11.26	10.97	10.71	70- 80	31.68	5473	99.9, 99.9
90	0.0382	0.0471	0.0457	0.0544	0.0429	0.0381	0.0339	0.0362	80- 90	3.739	5477	100, 100
100	0.0343	0.0342	0.0340	0.0334	0.0349	0.0363	0.0337	0.0340	90-100	0.0381	5477	100, 100
110	0.0335	0.0344	0.0337	0.0337	0.0349	0.0361	0.0337	0.0337	100-110	0.0361	5477	100, 100
120	0.0335	0.0344	0.0334	0.0332	0.0362	0.0358	0.0345	0.0337	110-120	0.0339	5477	100, 100
130	0.0338	0.0352	0.0334	0.0345	0.0379	0.0366	0.0359	0.0350	120-130	0.0311	5477	100, 100
140	0.0338	0.0366	0.0353	0.0364	0.0419	0.0404	0.0399	0.0383	130-140	0.0281	5477	100, 100
150	0.0365	0.0385	0.0375	0.0394	0.0460	0.0442	0.0426	0.0427	140-150	0.0248	5477	100, 100
160	0.0392	0.0401	0.0410	0.0410	0.0470	0.0450	0.0451	0.0462	150-160	0.0197	5477	100, 100
170	0.0403	0.0393	0.0413	0.0427	0.0427	0.0453	0.0448	0.0481	160-170	0.0124	5477	100, 100
180	0.0352	0.0369	0.0367	0.0359	0.0365	0.0382	0.0367	0.0356	170-180	0.0044	5477	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Açıklamalar (Descriptions)

NOT : Eğriler , aydınlatılmış alanı ve armatür farklı mesafede olduğunda ortalama aydınlatmayı gösterir

NOTE: The curves indicate the illuminated area and the average illuminaton when the luminaire is at different distance



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2.2.7 Işık Şiddeti Yoğunluğu Dağılımına Ait Veriler (Luminous Distribution Intensity Data)

Zone	Lumens	Luminaire %
UL - Uplight-Low (90-100)	0.038119	0.0
UH - Uplight-High (100-180)	0.19047	0.0
Total Up Light	0.22859	0.0

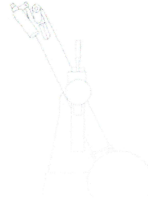
Table--1

UNIT: cd

C (DEG) Y (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403
5	7188	7205	7195	7212	7207	7225	7219	7231	7225	7233	7229	7237	7232	7238	7236	7242	7240	7246	7238
10	6665	6702	6676	6707	6687	6715	6703	6723	6716	6732	6723	6735	6726	6735	6727	6733	6717	6729	6714
15	5810	5861	5826	5868	5844	5887	5865	5887	5884	5908	5903	5921	5916	5921	5912	5922	5901	5911	5885
20	4708	4766	4722	4770	4737	4788	4767	4787	4774	4802	4793	4819	4806	4818	4805	4823	4809	4834	4807
25	3449	3501	3461	3511	3477	3526	3503	3529	3521	3551	3542	3565	3557	3568	3561	3571	3562	3587	3560
30	2292	2332	2295	2340	2302	2339	2326	2355	2348	2369	2362	2385	2382	2394	2384	2394	2379	2399	2377
35	1395	1421	1385	1410	1385	1415	1404	1426	1428	1454	1458	1476	1480	1490	1478	1488	1474	1480	1456
40	819	827	808	814	803	817	815	830	844	858	871	885	895	900	900	898	886	880	863
45	484	492	473	483	469	482	478	493	493	512	514	533	533	545	538	542	527	526	507
50	300	304	293	298	291	299	297	305	306	317	319	329	330	337	334	334	325	323	312
55	196	198	192	196	191	196	193	199	199	206	206	212	212	216	213	214	208	207	201
60	130	132	129	130	128	130	129	132	132	135	136	139	139	140	139	139	137	137	134
65	85.5	86.8	85.2	86.4	85.2	86.2	85.6	86.7	86.8	88.4	88.5	89.8	90.0	90.6	90.2	90.4	89.2	89.1	87.7
70	52.3	53.9	52.5	53.9	52.4	53.8	52.8	53.8	53.3	54.3	53.9	55.1	54.5	55.2	54.5	55.3	54.2	55.0	53.9
75	27.9	29.3	28.2	29.3	28.3	29.3	28.6	29.3	28.9	29.7	29.3	30.0	29.6	30.2	29.8	30.3	29.7	30.2	29.7
80	11.1	11.7	11.2	11.6	11.1	11.7	11.5	11.9	11.7	11.9	11.8	12.1	12.1	12.3	12.3	12.4	12.2	12.5	12.3
85	1.77	2.14	1.85	2.16	1.83	2.15	1.95	2.15	2.01	2.23	2.09	2.33	2.22	2.43	2.31	2.53	2.38	2.65	2.45
90	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.05	0.04	0.05	0.05	0.05	0.05	0.06	0.05
95	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03
100	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
105	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
110	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
115	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
120	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
125	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
130	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03
135	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03
140	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
145	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
150	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
155	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
160	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
165	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
170	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
175	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
180	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04



Bu rapor laboratuvarın yazılı izni olmadan kısmen veya tamamen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.
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2.2.8 Işık Şiddeti Yoğunluğu Dağılımına Ait Veriler (Luminous Distribution Intensity Data)

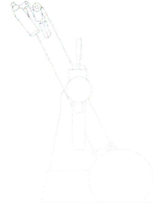
Table--2

UNIT: cd

C (DEG) γ (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403
5	7243	7233	7238	7230	7231	7224	7224	7217	7216	7210	7214	7206	7214	7209	7210	7204	7206	7199	7177
10	6721	6707	6718	6709	6718	6711	6725	6718	6729	6717	6725	6710	6718	6699	6701	6685	6689	6666	6632
15	5896	5884	5898	5893	5909	5901	5923	5912	5929	5917	5932	5915	5924	5904	5902	5869	5863	5835	5784
20	4824	4799	4816	4802	4821	4804	4822	4800	4813	4800	4827	4811	4827	4802	4811	4783	4786	4756	4700
25	3577	3548	3563	3544	3567	3554	3577	3563	3581	3571	3591	3582	3593	3560	3568	3548	3569	3536	3467
30	2393	2376	2392	2379	2391	2379	2392	2382	2404	2395	2416	2408	2425	2404	2413	2390	2390	2359	2301
35	1457	1442	1451	1440	1456	1448	1469	1466	1488	1490	1507	1499	1509	1493	1496	1470	1468	1439	1395
40	855	842	840	835	841	845	857	864	878	888	899	905	909	898	889	875	865	841	813
45	505	488	493	484	493	489	503	505	521	522	539	535	545	532	532	515	512	497	472
50	310	301	302	298	302	300	309	310	319	322	331	328	334	327	326	316	314	306	293
55	201	197	198	195	197	196	201	201	206	206	211	210	213	209	210	205	204	199	191
60	133	131	131	129	130	130	132	133	135	136	138	138	139	137	137	135	134	132	128
65	87.4	86.5	86.8	86.1	86.3	86.4	87.3	87.4	88.4	88.6	89.5	89.2	90.0	89.2	89.2	88.1	87.9	86.7	84.3
70	54.5	53.6	54.4	53.5	54.3	53.7	54.6	54.0	54.7	54.1	55.0	54.4	55.4	54.5	55.2	54.1	54.6	54.0	52.1
75	30.3	29.7	30.2	29.7	30.2	29.8	30.3	29.8	30.3	29.8	30.4	29.9	30.5	29.9	30.4	29.8	30.3	29.9	28.6
80	12.6	12.4	12.5	12.4	12.5	12.4	12.7	12.5	12.6	12.4	12.7	12.6	12.8	12.5	12.6	12.3	12.5	12.2	11.6
85	2.65	2.45	2.65	2.46	2.66	2.48	2.66	2.48	2.63	2.46	2.64	2.44	2.62	2.41	2.60	2.37	2.55	2.40	2.00
90	0.06	0.05	0.06	0.05	0.06	0.05	0.06	0.05	0.05	0.05	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.04	0.04
95	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.04
100	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
105	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
110	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
115	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04
120	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04
125	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.04	0.04
130	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.04	0.04	0.03	0.04	0.04	0.04
135	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.03	0.04	0.04	0.03	0.04	0.04	0.04	0.03	0.04	0.04	0.04
140	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
145	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
150	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04
155	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
160	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
165	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05
170	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
175	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.06	0.06
180	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.03	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04



Bu rapor laboratuvarın yazılı izni olmadan kısmen veya tamamen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.
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2.2.9 Işık Şiddeti Yoğunluğu Dağılımına Ait Veriler (Luminous Distribution Intensity Data)

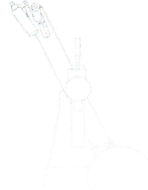
Table--3

UNIT: cd

C (DEG) y (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403
5	7192	7178	7192	7181	7185	7183	7184	7179	7181	7179	7179	7172	7174	7167	7172	7166	7166	7160	7162
10	6655	6630	6657	6634	6646	6635	6642	6630	6631	6617	6618	6605	6613	6604	6605	6590	6594	6582	6589
15	5819	5782	5823	5792	5809	5792	5804	5788	5795	5779	5789	5768	5771	5751	5752	5725	5733	5714	5725
20	4738	4689	4719	4674	4700	4679	4692	4675	4687	4669	4672	4652	4660	4639	4651	4625	4641	4624	4644
25	3508	3456	3494	3452	3478	3459	3474	3446	3453	3436	3441	3425	3437	3426	3443	3419	3430	3406	3414
30	2330	2281	2315	2278	2299	2281	2298	2285	2302	2293	2299	2281	2286	2267	2277	2250	2260	2239	2250
35	1411	1374	1396	1369	1385	1374	1394	1387	1403	1401	1411	1399	1403	1387	1387	1360	1363	1336	1337
40	812	796	800	791	798	802	808	817	826	833	836	835	830	822	813	800	789	790	769
45	478	461	471	459	471	467	480	479	492	492	502	497	499	486	486	470	469	454	453
50	295	286	290	285	291	290	297	297	305	305	311	307	309	303	303	293	292	283	283
55	195	188	192	187	192	190	195	194	200	199	202	200	201	197	197	192	193	187	188
60	129	126	127	125	127	127	129	129	131	131	133	132	132	130	130	127	127	125	125
65	85.0	83.5	84.4	83.2	84.2	83.8	84.7	84.8	85.7	85.7	86.1	85.8	85.9	85.1	84.9	83.5	83.5	82.6	82.7
70	53.2	51.7	52.8	51.5	52.6	51.9	52.7	52.0	52.9	52.3	52.9	52.4	52.8	51.9	52.2	51.1	51.8	51.1	51.6
75	29.4	28.1	29.0	28.1	28.9	28.4	28.8	28.3	28.8	28.3	28.7	28.2	28.5	27.9	28.3	27.6	28.1	27.5	28.0
80	12.0	11.3	11.6	11.2	11.5	11.4	11.6	11.3	11.4	11.2	11.3	11.2	11.2	10.9	11.0	10.7	11.0	10.7	10.8
85	2.26	1.87	2.12	1.81	2.03	1.86	2.03	1.84	1.96	1.80	1.92	1.80	1.88	1.69	1.80	1.58	1.75	1.60	1.75
90	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03
95	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03
100	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
105	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
110	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
115	0.04	0.04	0.03	0.04	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03
120	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03
125	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.03
130	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
135	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
140	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
145	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
150	0.05	0.04	0.04	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
155	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.05	0.04	0.04	0.04
160	0.05	0.05	0.04	0.05	0.04	0.04	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.05
165	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.05
170	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.05	0.05	0.05	0.05	0.04	0.04	0.05	0.04	0.04	0.05
175	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.14	0.06	0.06	0.06
180	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04



Bu rapor laboratuvarın yazılı izni olmadan kısmen veya tamamen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.
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2.2.10 Işık Şiddeti Yoğunluğu Dağılımına Ait Veriler (Luminous Distribution Intensity Data)

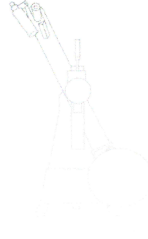
Table--4

UNIT: cd

C (DEG) Y (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403	7403				
5	7160	7164	7160	7168	7160	7165	7163	7166	7163	7166	7166	7174	7171	7183	7176				
10	6580	6592	6590	6604	6606	6622	6622	6638	6638	6647	6643	6652	6643	6655	6645				
15	5711	5730	5729	5754	5756	5776	5783	5807	5808	5822	5810	5819	5798	5811	5788				
20	4624	4647	4632	4651	4639	4657	4653	4668	4653	4674	4668	4684	4671	4694	4679				
25	3386	3396	3384	3401	3387	3402	3388	3410	3402	3423	3409	3430	3414	3433	3415				
30	2232	2243	2231	2243	2231	2249	2247	2267	2264	2283	2275	2291	2274	2289	2266				
35	1317	1327	1317	1330	1329	1352	1356	1378	1383	1401	1396	1412	1397	1403	1383				
40	766	759	764	763	776	781	795	808	822	833	837	841	836	832	819				
45	442	447	441	451	450	464	467	484	486	501	498	506	495	500	485				
50	277	279	276	282	282	289	290	300	302	310	309	313	309	309	301				
55	184	186	184	188	186	192	191	196	197	202	200	203	200	201	195				
60	124	125	124	126	125	127	127	130	130	132	132	132	131	132	129				
65	82.0	82.3	82.0	82.5	82.5	83.2	83.7	84.6	84.8	85.6	85.4	85.9	85.3	85.8	84.7				
70	50.9	51.7	51.0	51.7	50.9	51.6	51.0	51.8	51.3	52.3	51.6	52.4	51.5	52.3	51.6				
75	27.4	27.9	27.5	28.0	27.4	27.9	27.4	28.0	27.6	28.2	27.6	28.1	27.6	28.1	27.5				
80	10.6	10.7	10.6	10.8	10.6	10.9	10.7	10.8	10.7	10.9	10.8	10.9	10.7	10.9	10.7				
85	1.53	1.70	1.54	1.70	1.60	1.74	1.58	1.73	1.58	1.77	1.62	1.77	1.61	1.77	1.64				
90	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04				
95	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03				
100	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03				
105	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03				
110	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03				
115	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03				
120	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03				
125	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.04	0.04	0.04	0.03	0.04	0.03	0.04	0.03				
130	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03				
135	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04				
140	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04				
145	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04				
150	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.01	0.05				
155	0.04	0.05	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
160	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
165	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
170	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
175	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06				
180	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04				



Bu rapor laboratuvarın yazılı izni olmadan kısmen veya tamamen kopyalanıp çoğaltılamaz. İmzasız ve mühürlü raporlar geçersizdir.
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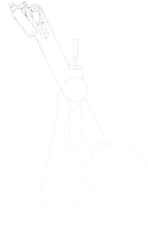
3. EKLER (Attachments)

3.1 Deney Bileşenleri (Test Components)

Envanter No (Inventory Number)	Cihaz Adı (Device Name)	Seri No (Serial Number)	Kal./Doğ. Tarihi (Cal./Ver. Date)
LAB-002	Integrating Sphere 2 m.	G121960CF1 341163D	-
LAB-004	Power Meter	G103508CD1331128	09/2024
LAB-005	Spectroradiometer	G112048JC1341124	09/2024
LAB-006	AC Power Supply	G119885CF1341123	09/2024
LAB-008	Analog Meter	ŞM-1555	09/2024
LAB-021	Standard Light Source	M147803CN1391114	05/2024
LAB-024	Terazi	1704254	09/2024
LAB-025	Auxiliary Lamp	M133803CD1391147	05/2024
LAB-027	Full Field Speed Goniophotometer	0110133CA1341113	05/2023
LAB-030	AC Power Supply	G120984CF1341115	09/2024
LAB-031	Power Meter	G103508TO1331122	09/2024
LAB-059	Küre Termokupl	13200840	09/2024
LAB-067	Anemometer	3558004	09/2024
LAB-029	Near Field Measur. Dedector	G108513CM1321114	05/2024
LAB-022	Standard Light Source	M133806CJ1401124	05/2024



Bu rapor laboratuvarın yazılı izni olmadan kısmen veya tamamen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.
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3.2 Ürün Fotoğrafları (Photos of Test Items)

3.2.1 Ön-Arka Görünüm (Front-Back view)



3.2.2 Görünüm (View)



Bu rapor laboratuvarın yazılı izni olmadan kısmen veya tamamen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.
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AB-1333-T

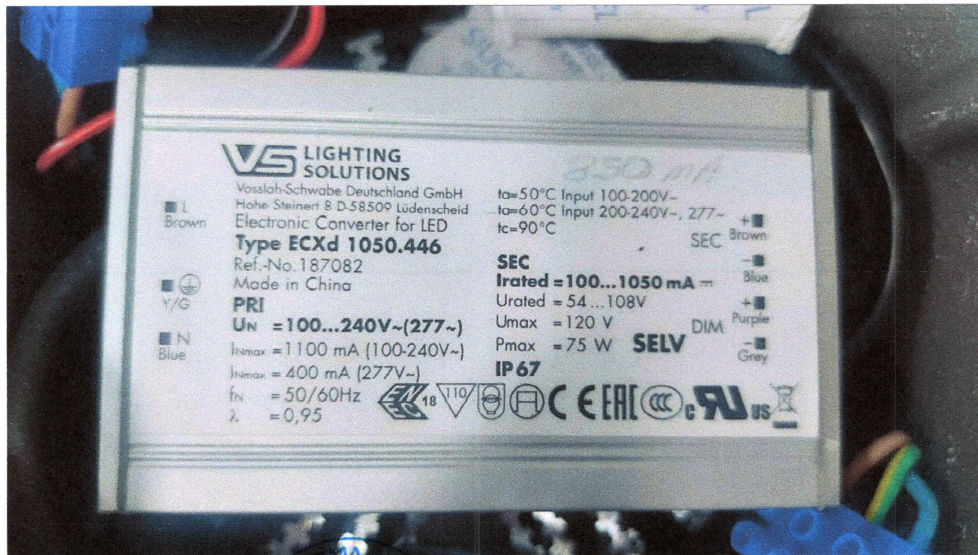
OPT2507

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3.2.3 Görünüm (View)



3.2.4 Görünüm (View)



Bu rapor laboratuvarın yazılı izni olmadan kısmen veya tamamen kopyalanıp çoğaltılamaz. İmzasız ve mühürlü raporlar geçersizdir.
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