



AB-1333-T

130919AI02

13092019

DENEY RAPORU TEST REPORT

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Susuz Mah. İstanbul Yolu 26. Km. Pampa Gıda Blokları C Blok No:1 Kat:2 Yenimahalle /

ANKARA

Tel. 0312 351 76 66

Müşterinin Adı / Adresi: Baytaş Aydınlatma İmalat Proje Taah.San.Ltd.Şti.
(Customer Name / Address) Sincan Sanayi Sitesi Ahi evran mah. 225 Cd. No:84 Sincan / ANKARA

Talep Numarası: 190822-01/R1
(Order No)

Ürünün Adı ve tarifi: Kentsel Aydınlatma (Torre)
(Name and Identity of Test Item) Urban Lighting (Torre)

Ürünün Kabul Tarihi: 08.09.2019
(The Date of Receipt of Test Item)

Deney Tarihi: 13.09.2019
(Date of Test)

Açıklamalar: Numuneye IESNA LM 79-08 standardı uyarınca testler uygulanmıştır.
(Comments) Test were applied to sample according to IESNA LM 79-08 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.

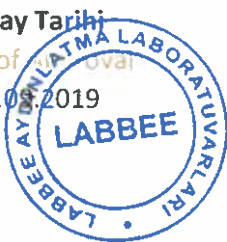
* İşaretli deneyler veya akreditasyon numarasının yer almadığı sayfalar, akreditasyon kapsamı dahilinde değildir.

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

Onay Tarihi

Date of Approval

25.09.2019



Deney Sorumlusu

Person in Charge of Test

A. İnaltun

Laboratuvar Müdürü

Head of Testing Laboratory

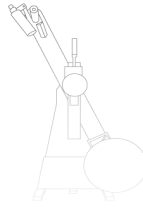
A. İnaltun

Mühür / Seal

Ayhan İNALTUN

Ayhan İNALTUN

Bu rapor laboratuvarın yazılı izni olmadan kısmen veya tamamen kopyalanıp çoğaltılamaz. İmzasız ve mühürsüz raporlar geçersizdir.
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İÇİNDEKİLER (CONTEST)

1. DÖKÜMANTASYON (DOCUMANTATION)

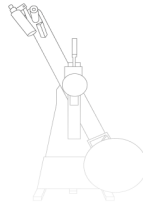
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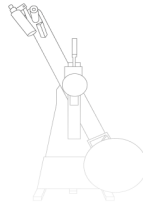


1.3 Ürün Bilgileri (Information of Test Item)

Ürünün Adı: (Name of Test Item)	Kentsel Aydınlatma Urban Lighting
Marka / Model: (Mark / Model)	Bayled / Torre
Ürünün Tanımı / Tipi: (Product description / Type)	Kentsel Aydınlatma Urban Lighting
Sürücü Tipi / Modeli: (Model of Driver)	Moso LDP-075R054H 75W 20-54V 0.21-2.1A
Seri No: (Serial Number)	-
Ürünün Boyutları / cm: (Product dimensions / cm)	Uzunluk / Çap: 20 (length / diameter) Genişlik: - (Width) Yükseklik: 60 (height)
Ürünün Ağırlığı / kg: (Product weight / kg)	-
IP Sınıfı: (IP Class)	-

1.4 Çevre Şartları (Environmental Conditions)

Sıcaklık - °C: (Temperature - °C)	25
Nem: (Humidity)	30.4
Hava Akımı - m/s: (Air flow - m/s)	0.1



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1.5 Deney Standartları (Test Standard)

Deneyler aşağıdaki standartlara göre yapılmıştır.

(The tests were performed according to following standards)

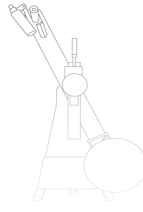
IESNA LM 79-08	Katı Hal Aydınlatma Ürünlerinin Elektriksel ve Fotometrik Ölçümleri. Electrical and Photometric Measurements of Solid-State Lighting Products.
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1.6 Belirsizlik Açıklamaları (Uncertainty Explanations)

Ölçümler %1 belirsizlikle yapılmıştır. Ölçüm Toplam belirsizliği ve genişletilmiş belirsizlik olup bileşik belirsizlik kapsam faktörü $k = 2.0$ çarpılarak elde edildi. Güvenirlilik düzeyi %95'tir.

(Measurements were made with 1% uncertainty. The measurement is sum uncertainty and extended uncertainty, and the composite uncertainty coverage factor $k = 2.0$ is derived.

Reliability level is 95%.)

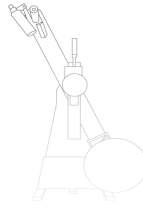


1.7 Elektriksel Ölçüm Sonuçları (Electrical Measurement Results)

Gerilim -Volt (Voltage - Volt)	Akım - Amper (Current - Amper)	Güç - Watt (Power - Watt)	Güç Faktör (Power Factor)
220	0.2214	43.53	0.8931

1.8 Ölçüm Sonuçları Özeti (Measurement Results Summary)

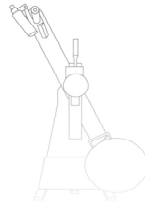
Işık Akısı - Lümen: (Luminous Flux - Lumen)	4418
Işık Şiddeti - Kandela: (Luminous Intensity - Candela)	4017
Ortalama Işıma Açısı: (Average Beam Angle)	70.7
Verimlilik - lm/w: (Efficiency - lm/w)	101.5
Renkssel Geri Verim / CRI: (CRI: Color Render Index)	75.1
Renk Sıcaklığı / Kelvin: (CCT: Colarated Color temprature / Kelvin)	4014
Test sırasında SSL ürünün yanma pozisyonu: (Burn position of SSL during testing)	Görsellere Bakınız.
Stabilizasyon süresi /dakika: (Stabilization time / Minute)	45
Stabilizasyon dahil olmak üzere ürünün toplam çalışma süresi (Total operating time of the product including stabilization)	75
Uygulanan düzeltme faktörleri: (Applied correction factors)	-



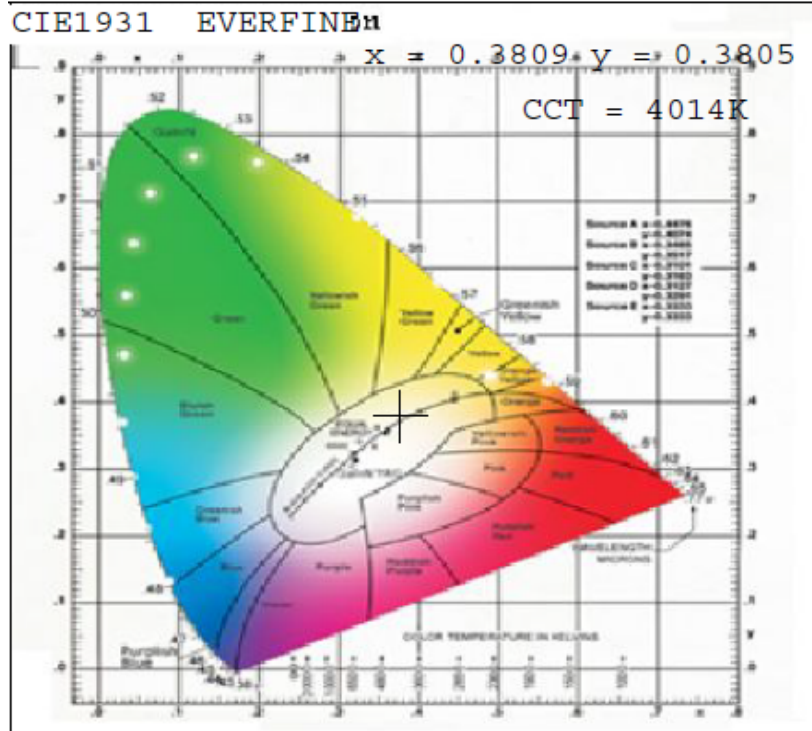
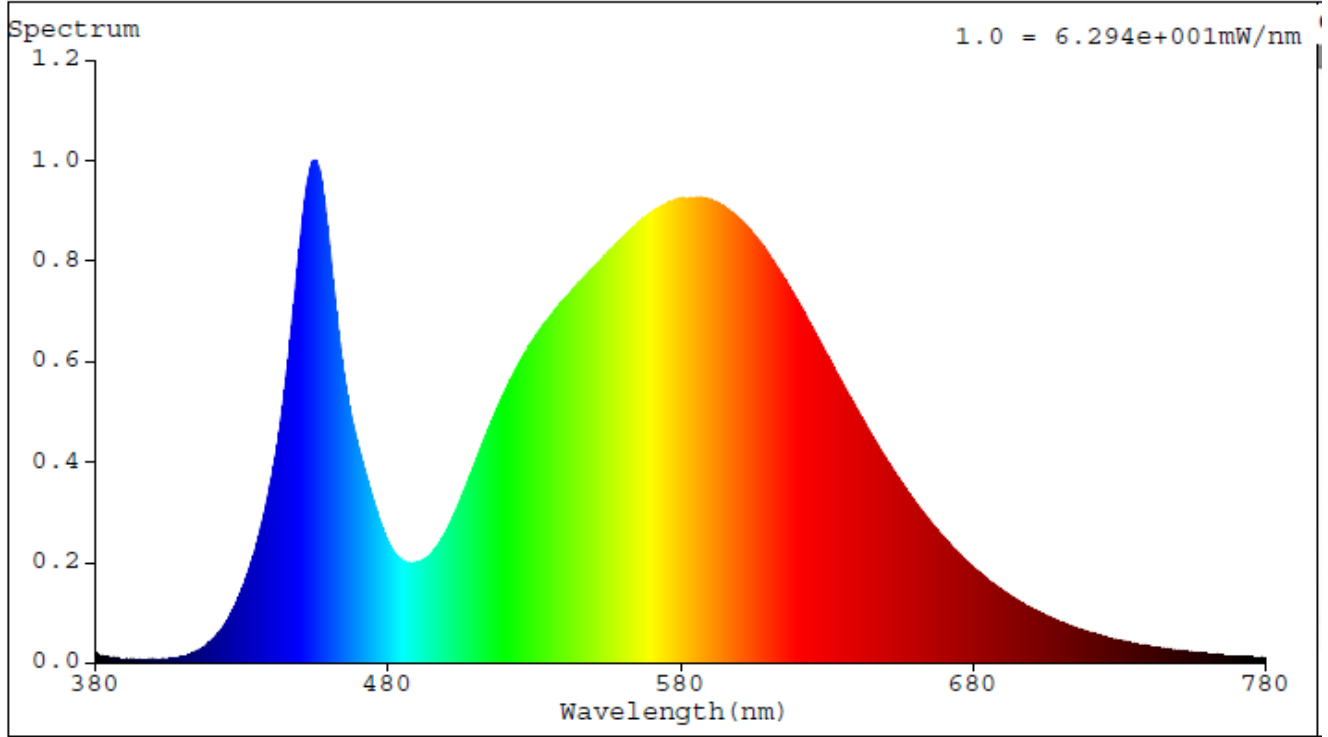
2. Deney Sonuçları (Test Results)

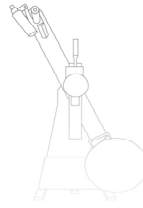
2.1 Entegre Küre Sonuçları (Integrating Sphere Measurement Results)

Renklilik Koordinatı: (Chromaticity Coordinate)				x: 0.3809		y: 0.3805	
				u': 0.2239		v': 0.5033	
				duv: 0.00159			
Renk Sıcaklığı - Kelvin: (CCT: Colarated Color temprature - Kelvin)				Renksel Geri Verim: (CRI: Color Render Index)			
4014				75.1			
R1	R2	R3	R4	R5	R6	R7	R8
72	83	90	71	71	75	83	55
R9	R10	R11	R12	R13	R14	R15	R15ort
0	59	65	45	74	94	67	66.93
% RGB oranları (% RGB Ratio)				S/P:			
%R: 17		%G: 79.9		%B: 3.1		1.5875	
Ld:Baskın Dalga boyu -nm: (Ld:dominant wavelength - nm)				Lp:Tepe Dalga boyu -nm: (Lp:Peak wavelength - nm)			
578.2				455			
Spektral Bant Genişliği -nm: (Spectral Bandwidth -nm)				% Renk Safılık oranı : (% Color Purity)			
23.3				28.5			
Fe - Watt:				Scotopic:			
9.6497				5238.3			
Eff (PPF) (400-700nm) μmol/s /W				(Fluorescent eff.):			
1.01				173.1			
Yayılan fotonların akışı - μmol/s (Flux of emitted photons)				Beyaz ve mavi Işık Oranı (Fluo. and blue light ratio)			
45.295				4.127			
Foton Sayısı (400 - 500nm) μmol/s: Photons1 (400 - 500nm) μmol/s				Foton Sayısı (600 - 700nm) μmol/s: Photons2 (600 - 700nm) μmol/s			
7.796				14.89			
Foton Sayısı (400-700nm) μmol/s: PPF (400-700nm): μmol/s				Işığın enerji miktarı: PRF(400-700nm) mW			
43.973				9425.8			



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



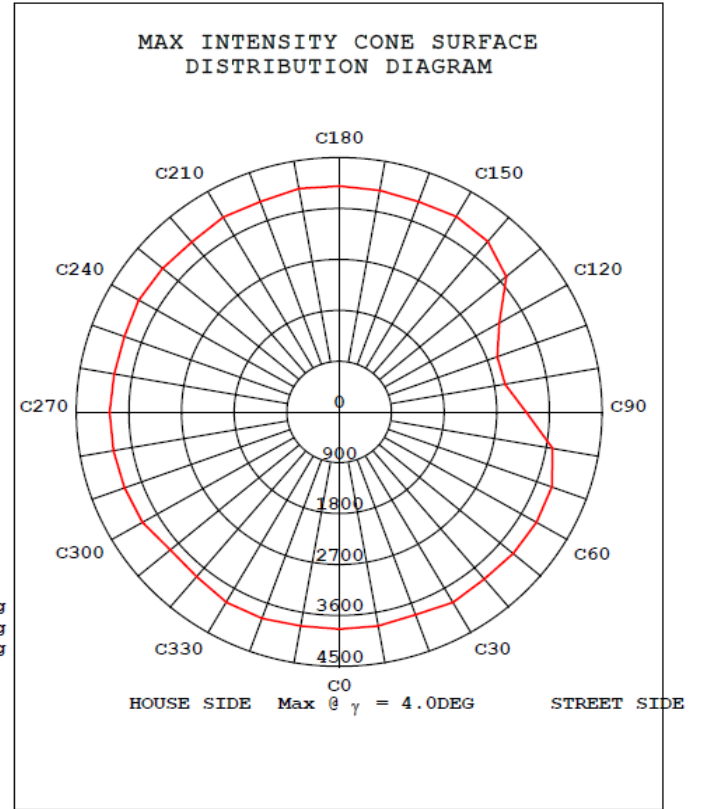
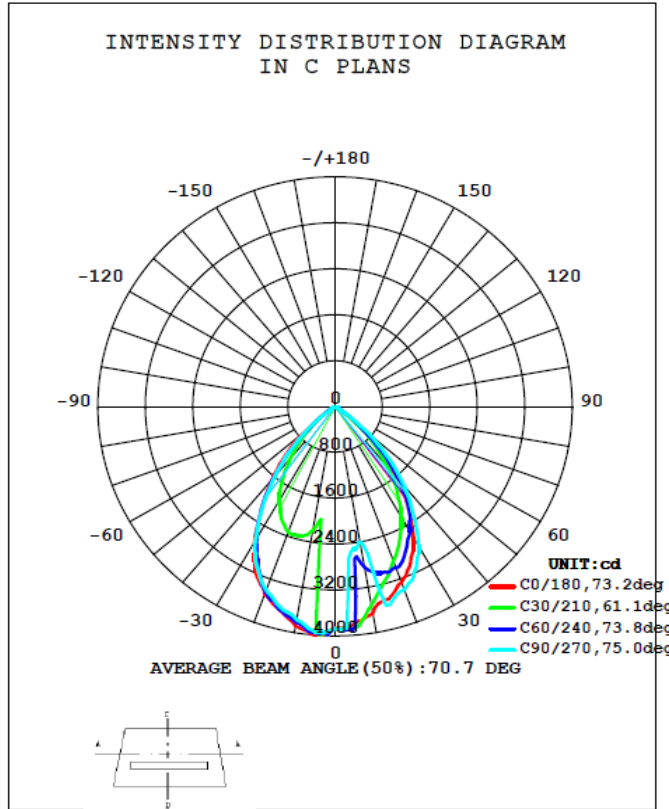


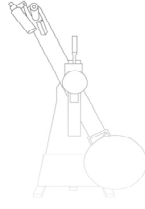
2.2 Gonyofotometre Sonuçları (Goniophotometer Measurement Results)

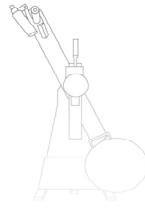
Işık Şiddeti (I max): Luminous intensity(Cd)	4017	C: (C Range)	0-360 derece
Aydınlatma Çıkış Oranı: (LOR:Lighting Output Ratio)	100	Düzlemler arası açı adımı C: (C Interval)	10 derece
Ort. Işıma Açısı: (Average Beam Angle)	70.7	Gama: (Gamma range)	0-180 derece
Ölçme uzaklığı: (Test Distance)	26	Düzlem içi açı adımı X: (X Interval)	1 derece

2.2.1 Işık Yeğirliği Polar Eğrisi

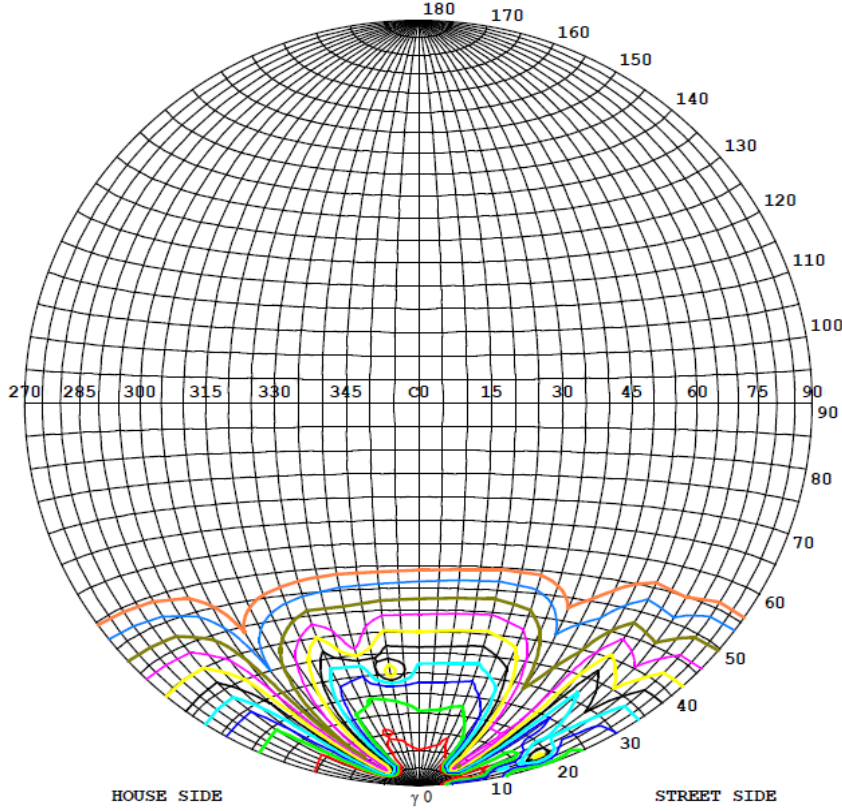
(Luminous Intensity Distribution Diagram)







2.2.2 Isocandela Diagramı (Street Light Isocandela Diagram)



Classification:

IES:Type VS - Very Short

CIE:Narrow - Short

IES:Cut-off

CIE:Full cut-off

Max.At80:2.843cd/klm

Max.At90:2.208cd/klm

Max.80-90:2.843cd/klm

ISOCANDELA DIAGRAM

UNIT	cd
I _{max} =100%	4017
90%	3615
80%	3214
70%	2812
60%	2410
50%	2009
40%	1607
30%	1205
20%	803
10%	402
5%	201

Açıklamalar (Descriptions)

Luminous Intensity: Işık Şiddeti.

Unit: Birim.

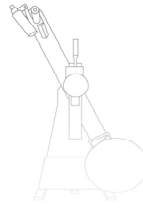
γ: Gama.

Zone: Bölge.

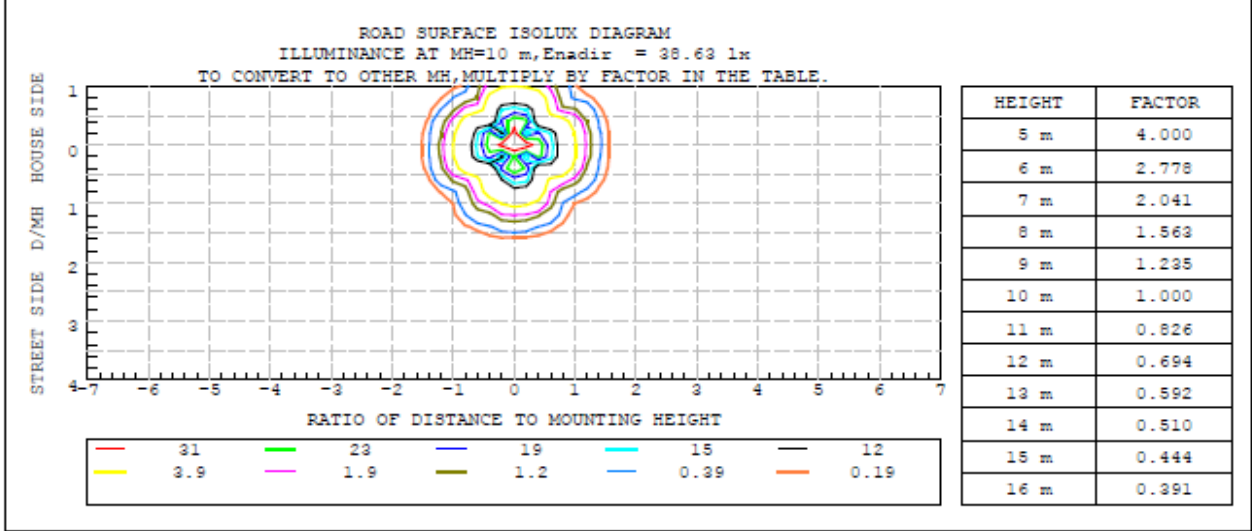
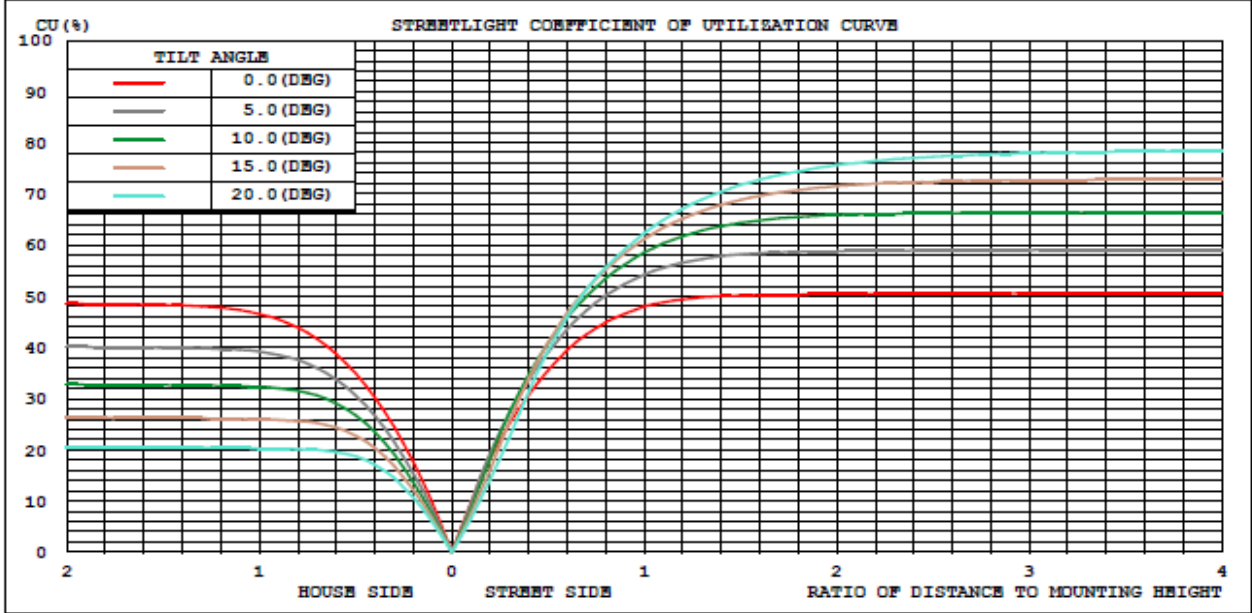
Total: Toplam.

Lamp: Lamba.

Degree: Derece.



2.2.3 Kullanım katsayı eğrisi ve isolux diagramı (Coefficient of utilization curve and isolux diagram)

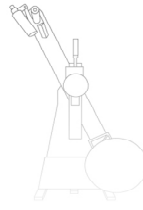


Açıklamalar (Descriptions)

Conical surface Flux: **Konik yüzey Akısı.**

Vertical: **Dikey.**

Horizontal: **Yatay.**

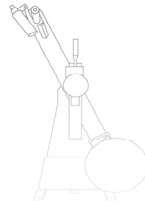


2.2.4 Alan Akı Diagramı (Area Flux Diagram)

y	C0	C45	C90	C135	C180	C225	C270	C315	y	Φ zone	Φ total	Φlum, lamp
10	3664	1249	2402	1422	3877	1655	3774	1335	0- 10	318.3	318.3	7.2,7.2
20	3256	1163	2404	1265	3478	1319	3411	1197	10- 20	825.2	1143	25.9,25.9
30	2648	924.7	2820	1008	2730	994.1	2711	955.4	20- 30	1168	2312	52.3,52.3
40	1615	611.3	1818	669.5	1675	621.2	1584	581.2	30- 40	1130	3442	77.9,77.9
50	551.0	210.7	755.0	207.0	641.1	208.2	553.4	159.6	40- 50	709.1	4151	93.9,93.9
60	49.57	37.99	64.96	36.49	63.54	37.38	51.75	31.12	50- 60	180.3	4331	98,98
70	22.14	17.76	30.39	18.64	31.89	16.98	24.48	15.27	60- 70	40.04	4371	98.9,98.9
80	4.423	7.592	3.719	8.055	4.336	7.736	4.551	7.547	70- 80	18.81	4390	99.4,99.4
90	1.904	5.226	1.858	5.704	2.232	5.368	2.008	4.771	80- 90	8.329	4398	99.6,99.6
100	1.415	3.011	1.160	2.813	1.948	3.048	1.984	2.117	90-100	5.152	4403	99.7,99.7
110	1.369	2.411	1.160	2.254	1.816	2.514	1.960	1.695	100-110	3.585	4407	99.7,99.7
120	1.369	1.790	1.160	1.927	1.982	2.204	1.936	1.679	110-120	2.746	4410	99.8,99.8
130	1.369	1.462	1.160	1.541	2.550	2.191	2.476	1.729	120-130	2.191	4412	99.9,99.9
140	1.369	1.478	1.160	1.504	3.287	2.251	3.115	2.050	130-140	1.823	4414	99.9,99.9
150	1.570	1.562	1.545	1.518	3.636	2.587	3.787	2.507	140-150	1.570	4415	99.9,99.9
160	2.126	1.754	2.165	1.850	3.859	3.838	3.643	4.603	150-160	1.365	4417	100,100
170	2.358	2.804	2.739	2.967	4.293	4.517	5.496	6.266	160-170	1.011	4418	100,100
180	4.326	3.771	5.409	4.577	4.336	4.036	5.094	5.122	170-180	0.4116	4418	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Açıklamalar (Descriptions)

Mounting Height: Montaj Yüksekliği.



2.2.5 Isocandela Diagramı (Isocandela Diagram)

Conical surface Flux(90deg):

3868.9 lm

%lum = 87.6%

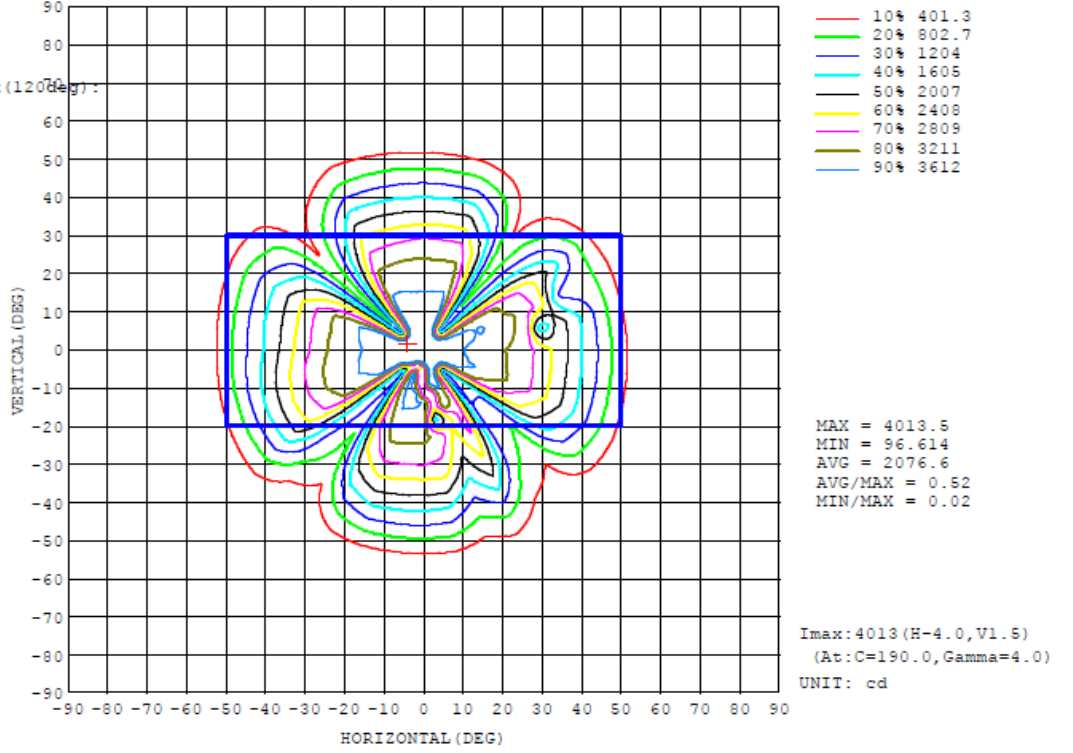
%lamp = 87.6%

Conical surface Flux(120deg):

4331 lm

%lum = 98.0%

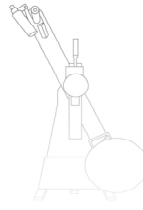
%lamp = 98.0%



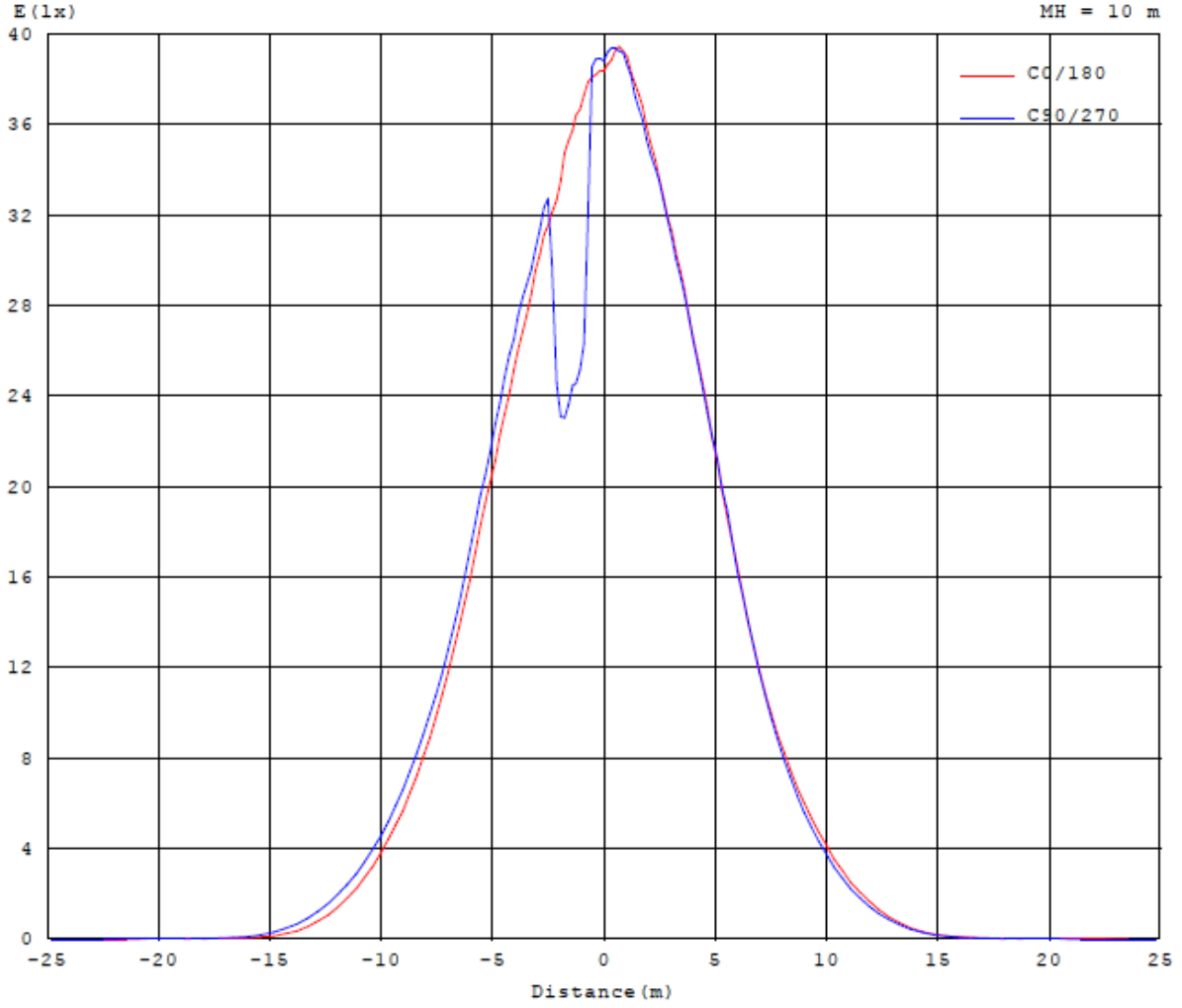
Açıklamalar (Descriptions)

MH: Mounting Height: Montaj Yüksekliği.

Distance: Mesafe.



2.2.6 Düzlemsel Aydınlık Eğrisi (Planar Illuminance Curve)



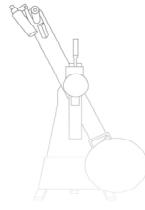
Açıklamalar (Descriptions)

Flux Out: Akı (Lümen) Çıkışı.

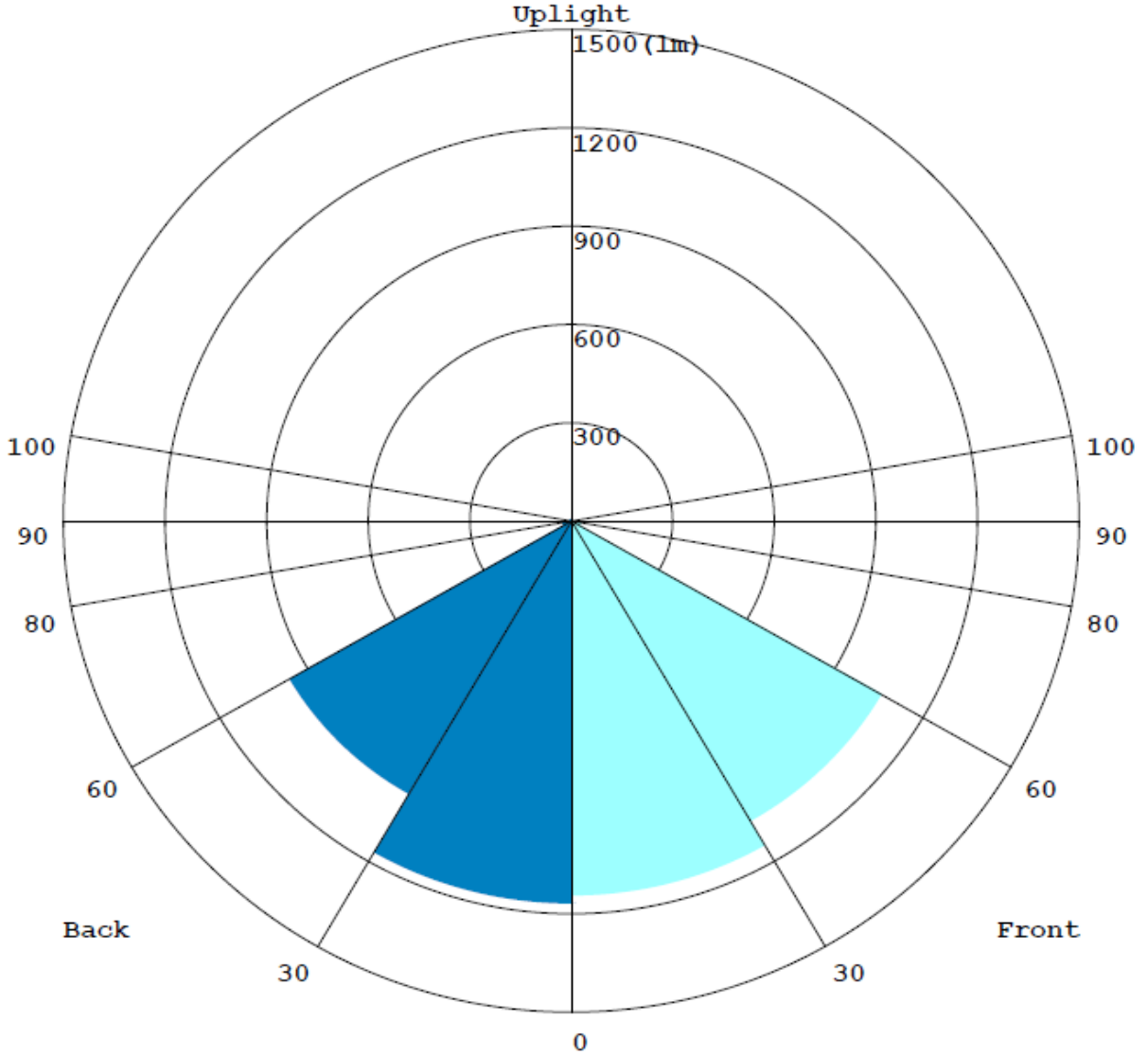
Height: Yükseklik.

Angle: Açılı.

Diameter: Çap.



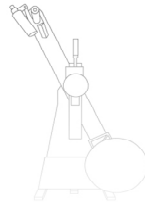
2.2.7 Armatür sınıflandırma sistemi grafiği (Luminaire classification system (LCS) graph)



Açıklamalar (Descriptions)

Horizontal: Yatay

Vertical: Dikey



2.2.7 Armatür Akı Dağılım Tablosu (Back, Up, Glare Report)

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low (0-30)	1144.1	25.9
FM - Front-Medium (30-60)	1057.9	23.9
FH - Front-High (60-80)	30.728	0.7
FVH - Front-Very High (80-90)	4.2618	0.1
Total Forward Light	2246.1	50.8

BL - Back-Low (0-30)	1167.7	26.4
BM - Back-Medium (30-60)	961.32	21.8
BH - Back-High (60-80)	28.124	0.6
BVH - Back-Very High (80-90)	4.067	0.1
Total Back Light	2171.9	49.2

UL - Uplight-Low (90-100)	5.152	0.1
UH - Uplight-High (100-180)	14.703	0.3
Total Up Light	19.855	0.4

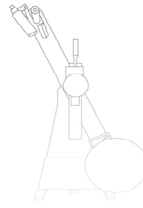
BUG (Back, Up, Glare) Rating	B3-U2-G0
------------------------------	----------

Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	2237	9.1006	2246.1
Street Side	2161.2	10.754	2171.9

Açıklamalar (Descriptions)

Horizontal: Yatay

Vertical: Dikey



2.2.7 Işık Şiddeti yoğunluğu dağılımına ait veriler (Luminous Distribution Intensity Data)

Table--1

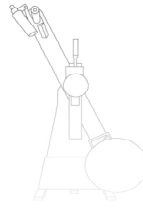
UNIT: cd

C (DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862
5	3796	3841	3825	3866	3814	3774	3860	3861	3412	2651	2284	2357	2553	3035	3968	3979	3964	4003	3995
10	3664	3661	3692	3518	1774	922	2840	3734	3406	2402	3112	3790	3185	1065	1782	3759	3892	3861	3877
15	3476	3496	3528	3169	1378	1155	3003	3519	2498	3571	3649	3648	3034	1013	1715	3595	3727	3675	3666
20	3256	3285	3304	2862	1118	1208	2982	2295	1786	3404	3443	3479	2847	928	1605	3407	3569	3515	3478
25	3015	3060	3039	2568	922	1172	2803	2234	2991	3168	3219	3233	2671	834	1478	3157	3348	3282	3177
30	2648	2650	2645	2240	762	1088	2518	1945	2701	2820	2844	2866	2355	725	1292	2801	2924	2901	2730
35	2159	2183	2193	1841	609	960	2163	1627	2292	2314	2329	2389	2006	621	1112	2386	2453	2365	2182
40	1615	1666	1670	1372	458	766	1674	1228	1777	1818	1858	1867	1546	479	861	1831	1870	1847	1675
45	1098	1129	1135	915	287	498	1098	845	1267	1300	1322	1321	1032	310	517	1168	1262	1269	1183
50	551	579	589	459	140	282	575	458	722	755	751	709	541	165	250	552	615	660	641
55	137	155	171	158	52.9	140	252	194	265	259	254	241	207	74.8	110	215	218	203	194
60	49.6	57.2	63.2	54.4	21.8	54.3	74.1	61.7	72.6	65.0	72.1	77.0	69.7	27.2	45.9	75.2	79.1	70.2	63.5
65	32.8	40.4	46.2	39.4	14.0	35.0	45.4	38.6	47.7	46.0	53.4	54.7	49.2	16.2	33.4	54.8	55.7	49.0	47.6
70	22.1	28.1	32.8	28.5	9.28	26.3	32.1	29.3	32.7	30.4	37.8	40.1	37.0	11.2	26.1	41.4	40.8	35.0	31.9
75	13.3	18.6	22.1	20.1	6.84	17.7	20.1	19.3	17.2	13.9	21.1	24.8	22.7	7.56	16.7	24.2	24.5	20.4	18.2
80	4.42	9.00	11.9	11.5	5.02	10.2	8.47	11.0	7.47	3.72	9.28	11.6	11.5	5.16	11.0	12.1	12.6	8.33	4.34
85	3.35	7.78	10.4	9.86	3.95	8.72	7.23	9.67	6.24	2.55	7.80	10.1	9.90	4.00	9.43	10.7	11.3	7.24	3.12
90	1.90	6.11	8.62	8.26	2.96	7.50	6.15	8.60	5.24	1.86	6.88	8.98	8.73	3.23	8.19	9.30	9.75	5.92	2.23
95	1.67	4.82	6.73	6.19	2.13	4.75	4.06	5.23	3.54	1.16	4.48	5.81	5.61	2.23	5.95	7.12	7.73	4.82	2.01
100	1.42	3.67	4.92	4.13	1.67	4.36	3.91	4.30	3.43	1.16	4.33	5.77	5.18	1.84	3.79	4.85	5.69	3.81	1.95
105	1.37	3.58	4.23	3.21	1.55	4.06	3.75	3.30	3.32	1.16	4.19	5.73	4.99	1.68	3.40	4.30	5.28	3.68	1.88
110	1.37	3.20	3.78	2.83	1.38	3.44	3.46	2.38	3.08	1.16	3.86	4.72	4.37	1.58	2.94	4.06	4.91	3.59	1.82
115	1.37	3.13	3.25	2.29	1.21	2.83	2.69	1.92	2.62	1.16	3.33	3.95	3.74	1.38	2.74	3.83	4.21	3.30	1.75
120	1.37	2.67	2.87	1.99	1.14	2.44	2.23	1.69	2.34	1.16	2.86	3.33	3.27	1.23	2.63	3.36	3.67	3.11	1.98
125	1.37	2.44	2.57	1.68	1.15	1.91	2.00	1.53	2.08	1.16	2.40	2.79	2.80	1.23	2.21	2.73	3.20	2.80	2.27
130	1.37	2.21	2.35	1.59	1.17	1.76	1.88	1.45	2.04	1.16	2.16	2.63	2.69	1.23	1.85	2.42	2.57	2.41	2.55
135	1.37	2.05	2.04	1.52	1.18	1.76	1.81	1.43	1.99	1.16	1.90	2.52	2.42	1.23	1.78	2.18	2.25	2.10	2.90
140	1.37	2.08	2.07	1.49	1.20	1.76	1.85	1.41	1.95	1.16	1.95	2.27	2.26	1.23	1.78	2.16	2.21	2.18	3.29
145	1.44	2.16	2.10	1.46	1.29	1.76	1.89	1.39	1.91	1.16	1.98	2.10	2.26	1.23	1.79	2.21	2.16	2.27	3.52
150	1.57	2.24	2.13	1.76	1.37	1.76	1.93	1.46	1.86	1.55	2.24	2.16	2.26	1.23	1.81	2.25	2.11	2.35	3.64
155	1.66	2.44	2.16	1.70	1.58	1.76	1.97	1.99	2.08	1.93	2.46	2.22	2.26	1.66	1.82	2.30	2.16	2.44	3.75
160	2.13	2.48	2.18	2.06	1.75	1.76	2.22	2.45	2.34	2.16	2.79	2.24	2.34	1.87	1.84	2.35	2.41	2.52	3.86
165	2.24	2.53	2.38	2.42	1.97	2.13	2.66	2.94	2.57	2.55	2.93	2.37	2.72	2.07	1.85	2.40	2.85	2.61	4.26
170	2.36	2.57	2.57	3.05	2.70	2.90	3.35	3.44	3.38	2.74	3.04	3.09	2.93	2.92	3.01	2.89	3.12	3.03	4.29
175	2.88	3.42	3.62	4.12	3.04	3.28	4.15	4.75	4.38	4.24	4.16	3.29	3.89	3.69	3.24	3.12	3.82	3.42	4.32
180	4.33	4.50	4.46	4.89	3.11	4.43	4.31	4.83	5.00	5.41	5.71	4.49	5.21	4.69	4.47	3.58	4.13	4.51	4.34

Açıklamalar (Descriptions)

Horizontal: Yatay

Vertical: Dikey



2.2.7 Işık Şiddeti yoğunluğu dağılımına ait veriler (Luminous Distribution Intensity Data)

Table--2

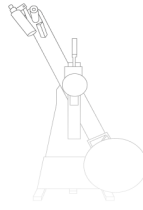
UNIT: cd

C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862		
5	3998	3968	3794	3624	3860	3960	3920	3915	3946	3925	3908	3394	2676	3042	3722	3862	3848		
10	3892	3818	2176	708	2607	3815	3798	3775	3774	3784	3793	2595	801	1873	3540	3723	3733		
15	3729	3665	2335	596	2344	3669	3647	3603	3609	3650	3651	2567	749	1865	3483	3697	3562		
20	3499	3451	2320	524	2118	3440	3431	3402	3411	3433	3414	2436	632	1766	3333	3410	3439		
25	3166	3103	2168	482	1849	3084	3113	3115	3112	3148	3160	2225	548	1622	3070	3211	3141		
30	2682	2667	1899	435	1556	2648	2685	2711	2723	2740	1934	485	1429	2712	2820	1439			
35	2167	2149	1557	379	1266	2175	2172	2149	2139	2159	2176	1574	397	1209	2231	1571	2158		
40	1694	1660	1184	299	945	1624	1618	1595	1584	1600	1602	1166	285	879	1633	939	1655		
45	1188	1151	809	190	581	1043	1070	1064	1054	1040	1016	714	175	504	959	908	1077		
50	654	632	462	107	310	545	566	564	553	533	485	335	95.2	224	355	452	502		
55	210	218	188	52.2	145	231	219	190	170	161	155	127	47.0	88.4	108	136	139		
60	67.3	72.4	67.2	25.0	49.9	74.1	72.3	60.1	51.8	57.5	60.7	54.7	21.8	40.5	42.0	53.0	54.8		
65	51.6	52.2	47.8	16.4	30.4	46.4	46.3	40.2	35.9	41.2	41.8	37.5	12.5	30.1	34.2	35.6	37.1		
70	35.9	37.4	35.2	11.5	22.5	33.7	33.6	28.2	24.5	28.8	30.5	27.2	8.68	21.9	24.8	24.3	25.8		
75	22.7	24.7	23.8	7.80	16.1	22.4	22.9	15.9	12.3	17.7	21.2	18.5	6.06	15.4	16.5	17.3	16.9		
80	9.07	11.2	10.9	4.71	10.8	10.7	12.0	7.46	4.55	9.19	11.2	10.7	4.53	10.6	8.12	11.1	7.61		
85	7.70	10.0	9.54	4.02	9.24	9.22	10.4	6.08	3.32	7.64	9.67	9.11	3.31	9.03	6.55	10.4	6.44		
90	6.18	8.23	8.02	2.96	7.79	7.75	8.90	4.77	2.01	6.17	8.18	7.55	2.23	7.33	4.69	8.57	4.74		
95	4.73	6.26	5.65	2.20	4.74	5.32	4.91	3.99	2.00	4.43	5.65	5.22	1.38	5.01	3.36	6.70	3.88		
100	3.51	4.61	3.67	1.82	4.28	5.07	3.61	3.61	1.98	4.30	5.64	4.66	1.15	3.09	3.28	5.03	3.81		
105	3.43	4.38	3.22	1.82	3.89	4.54	2.84	3.15	1.97	4.01	5.03	4.21	1.15	2.93	3.28	4.44	3.74		
110	3.41	4.08	3.06	1.82	3.21	3.61	2.60	2.97	1.96	3.15	4.25	3.42	1.15	2.24	3.28	4.38	3.66		
115	3.40	3.57	2.90	1.82	2.60	3.14	2.50	2.88	1.95	2.78	3.40	2.73	1.15	2.20	3.28	3.89	3.59		
120	3.39	3.51	2.79	1.82	2.59	3.10	2.40	2.80	1.94	2.24	3.37	2.75	1.15	2.21	3.28	3.88	3.51		
125	3.38	3.55	2.73	1.82	2.57	3.07	2.40	2.82	2.19	2.24	3.34	2.78	1.15	2.22	3.28	3.86	3.63		
130	3.37	3.59	2.67	1.82	2.56	3.04	2.43	2.89	2.48	2.24	3.31	2.82	1.23	2.23	3.28	3.84	3.81		
135	3.36	3.62	2.61	1.91	2.55	3.01	2.45	2.96	2.91	2.24	3.28	2.96	1.46	2.24	3.29	3.83	3.94		
140	3.66	3.62	2.62	1.97	2.54	3.08	2.48	2.84	3.11	2.40	3.27	3.04	1.62	2.49	3.98	4.13	3.97		
145	3.97	3.62	2.66	2.13	2.53	3.17	2.51	2.54	2.94	2.71	3.37	3.23	1.77	2.63	4.14	4.61	4.74		
150	4.50	3.66	2.73	2.36	2.82	3.31	2.53	3.31	3.79	3.02	3.60	3.66	2.31	2.71	4.36	4.99	5.07		
155	4.50	3.73	3.09	3.42	3.29	3.93	3.46	4.07	3.68	3.05	3.82	4.14	3.46	3.56	4.61	5.54	5.68		
160	4.50	3.86	3.36	3.87	3.80	5.08	3.75	4.22	3.64	3.15	3.48	4.33	4.16	5.05	5.53	5.54	5.88		
165	4.50	4.38	3.80	4.87	4.14	5.69	3.98	3.84	4.49	4.57	4.17	4.99	5.78	5.55	5.46	5.54	6.00		
170	4.52	4.62	4.33	5.12	3.91	5.69	4.45	4.10	5.50	5.80	3.57	5.91	6.12	6.41	5.38	5.53	6.03		
175	4.57	4.73	4.86	5.39	3.43	5.69	4.42	5.10	6.57	6.57	6.11	6.23	6.47	5.79	4.66	4.67	5.91		
180	4.11	4.53	4.58	4.93	3.13	4.46	4.30	4.85	5.09	5.33	5.57	4.89	5.38	4.86	4.37	3.35	4.04		

Açıklamalar (Descriptions)

Horizontal: Yatay

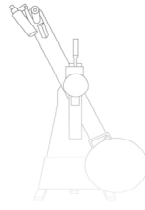
Vertical: Dikey



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.	G121960CF1341163D	12.04.2019
LAB-004	Power Meter	G103508CD1331128	26.06.2019
LAB-006	AC Power Supply	G119885CF1341123	26.06.2019
LAB-022	Standard light source (sphere)	G100283CA1341240	17.04.2019
LAB-025	Auxiliary lamp (sphere)	001	17.04.2019
LAB-059	Sphere termokupl	13200840	24.04.2018
LAB-021	Standard light source(gonio)	M119805CN1331115	17.04.2019
LAB-027	Full field speed goniophotometer	0110133CA1341113	12.04.2019
LAB-032	Gonio termokupl	001	03.04.2018
LAB-030	AC Power Supply	G120984CF1341115	26.06.2019
LAB-031	Power Meter	G103508TO1331122	26.06.2019
LAB-024	Scales	1704254	03.04.2018
LAB-008	analog meter	ŞM-1555	23.08.2017

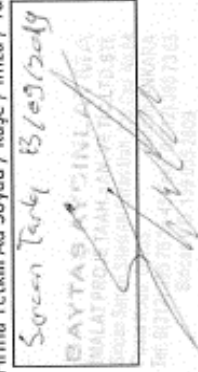


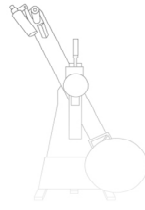
3.2 Kritik Komponent Listesi (Critical Components List)

TORRE

Komponent Listesi / list of Component				
Sıra No	Komponent Adı	Marka / Model	Seri No:	Teknik Özellikleri
1	LED	LUMILEDS / COB 1211		70 CRI 4000K
2	DRIVER	MOSO / LDP-075R054		75W 20-54V 0,21-2,1A
3	LENS	LIMBUS / TLS01NI-D78-90-GL		90 DERECE
4				
5				
6				
7				
8				
9				
10				

Firma Yetkili Ad Soyad / Kaşe / İmza / Tarih





3.3 Ürün Fotoğrafları (Photos of Test Items)

3.3.1 Ön Görünüm (Front view)



3.3.2 Görünüm (view)

