



Test Report Number:	LCZP22080159				
Applicant Name:	Foshan Topday Optoelectronics Technology Co., Ltd				
Applicant Address:	Huansheng Heng Road, Guicheng Eastern Industrial Zone B, Sanshan Nanhai District, FOSHAN Guangdong 528200				
Test item:	LED Fixed Luminaire				
Model / Type Reference:	WAL-191, BL-CM360W1400				
Date of Issue:	2022-08-31				
Testing Laboratory:	LCTECH Guangdong Testing Services Co., Ltd. 2/F., Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China Tel:+86-760-22833366 E-mail:Service@lccert.com http://www.lccert.com				
Test Sites:	1/F., Building I, Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China				
Test Specification:	Photometric test (According to IES LM-79-08)				
Report Template No.:	LC-RT-PL-006 Rev.2.0				
Test Result:	See the following pages				
Compiled by:	Reviewed by:				
2022-08-31 Pengkang Liang 	2022-08-31 Lin Qiu 				
<i>Date</i>	<i>Name</i>	<i>Signature</i>	<i>Date</i>	<i>Name</i>	<i>Signature</i>
Remark:					
<i>Two model are the same except the model number, WAL-191 was selected to the test.</i>					
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Sample Description			
Luminaire Type	LED Fixed Luminaire	Model/Type	WAL-191,BL-CM360W1400
Input Type	<input checked="" type="checkbox"/> AC <input type="checkbox"/> DC	Rated Voltage	120-277VAC, 50/60Hz
Rated Wattage	45 W	Lamp Rated Flux	Not Provided
Lamp Type	LED	Lamp Model	Not Provided
Power Supply Type	LED driver	Power Supply Model	TD0504IL-E090
Luminous Length	870 mm	Luminous Width	80 mm
Luminous Diameter	N A	Luminous Height	50 mm
Sample Code of lab.	220822106001		

Test Condition			
Temperature	25.2°C	Humidity	62.1%
Test Equipment	LC-I-902 GMS-2000	Test Mode	C-Gamma
Test Date	2022-8-29	Test Method	Absolutely photometric
Azimuth (C)	15	Elevation (Gamma)	5
Test distance	29.75 m	Uncertainty	Considered
Stabilization	2 hours		

Characteristics			
2700K			
Input Voltage	120.00 V	Input Current	0.397 A
Wattage	47.53 W	Power Factor	0.998
Total lumens	3159.52 lm	Luminous Efficacy	66.47 lm/W
Luminaire Efficiency	N/A	Central Intensity	903.280 cd
Max intensity	906.329 cd	Angle of max intensity	C=0,Gamma=15
Maximum S/H	C0_180= 1.41, C90_270= 1.17	CIE Type	Direct lighting
3000K			
Input Voltage	119.98 V	Input Current	0.397 A
Wattage	47.53 W	Power Factor	0.998
Total lumens	3266.47 lm	Luminous Efficacy	68.72 lm/W
Luminaire Efficiency	N/A	Central Intensity	933.741 cd



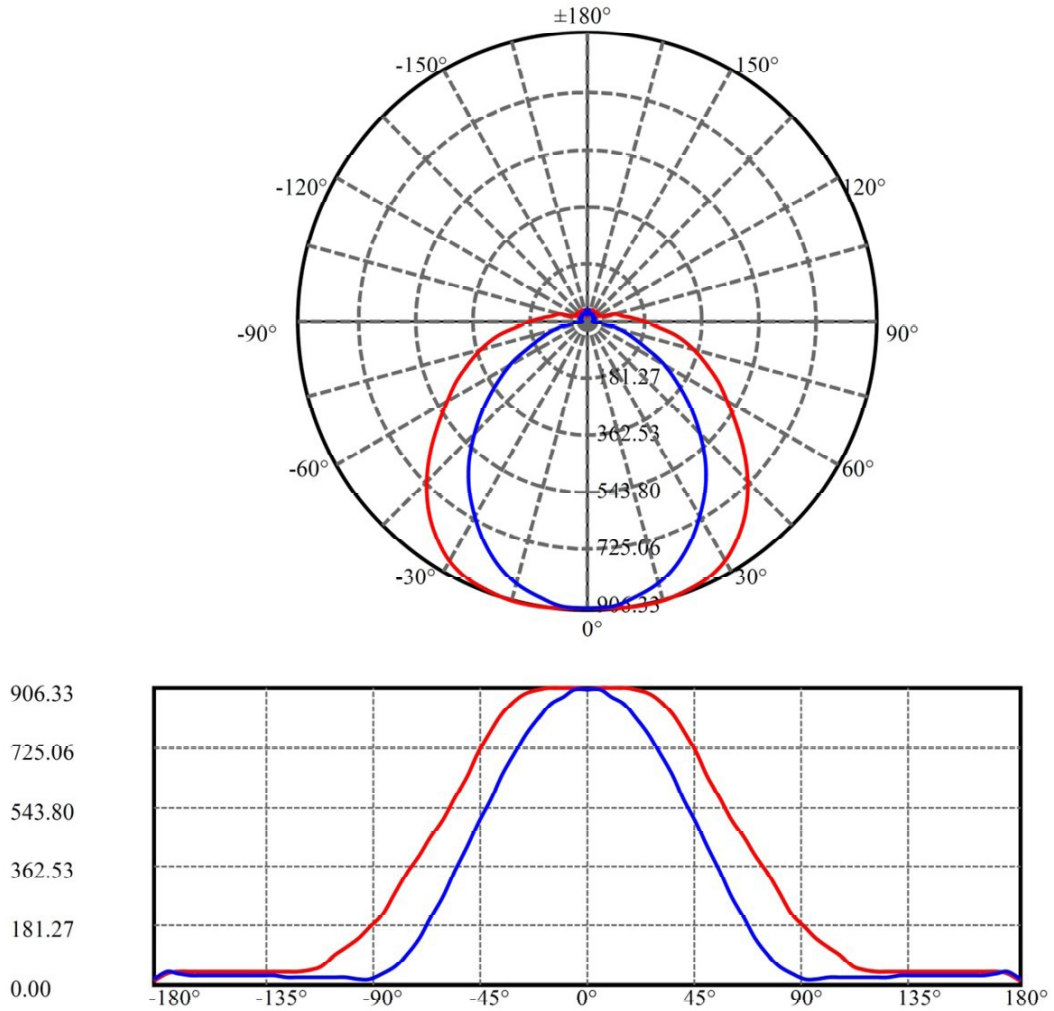
Max intensity	937.225 cd	Angle of max intensity	C=0,Gamma=15
Maximum S/H	C0_180= 1.41, C90_270= 1.17	CIE Type	Direct lighting
3500K			
Input Voltage	119.98 V	Input Current	0.397 A
Wattage	47.51 W	Power Factor	0.998
Total lumens	3423.59 lm	Luminous Efficacy	72.06 lm/W
Luminaire Efficiency	N/A	Central Intensity	978.584 cd
Max intensity	982.070 cd	Angle of max intensity	C=0,Gamma=10
Maximum S/H	C0_180= 1.41, C90_270= 1.17	CIE Type	Direct lighting
4000K			
Input Voltage	119.96 V	Input Current	0.397 A
Wattage	47.49 W	Power Factor	0.998
Total lumens	3471.42 lm	Luminous Efficacy	73.10 lm/W
Luminaire Efficiency	N/A	Central Intensity	992.303 cd
Max intensity	996.223 cd	Angle of max intensity	C=0,Gamma=15
Maximum S/H	C0_180= 1.41, C90_270= 1.17	CIE Type	Direct lighting
5000K			
Input Voltage	120.01 V	Input Current	0.396 A
Wattage	47.48 W	Power Factor	0.998
Total lumens	3523.16 lm	Luminous Efficacy	74.20 lm/W
Luminaire Efficiency	N/A	Central Intensity	1007.186 cd
Max intensity	1010.453 cd	Angle of max intensity	C=0,Gamma=15
Maximum S/H	C0_180= 1.41, C90_270= 1.17	CIE Type	Direct lighting
6500K			
Input Voltage	120.00 V	Input Current	0.396 A
Wattage	47.43 W	Power Factor	0.998
Total lumens	3467.42 lm	Luminous Efficacy	73.11 lm/W
Luminaire Efficiency	N/A	Central Intensity	991.270 cd
Max intensity	994.319 cd	Angle of max intensity	C=0,Gamma=10
Maximum S/H	C0_180= 1.41, C90_270= 1.17	CIE Type	Direct lighting



Luminance Data (cd/m²)									
2700K									
Gamma	45	50	55	60	65	70	75	80	85
C0	8866	8163	7540	7013	6548	6121	5644	5091	4355
C45	8974	8223	7509	6782	6143	5593	5084	4610	4063
C90	9536	8795	7986	7080	6092	5149	4243	3565	3330

Light Distribution Curve(cd)

2700K



C0(Max): ——
 C0/C180: ——
 C90/C270: ——

Field angle(10%Imax):C0/180Left:119.8 Right:89.8
 :C90/270Left:75.4 Right:75.4

Beam Angle(50%Imax):C0/180Left:79.8 Right:49.8
 :C90/270Left:47.9 Right:47.9

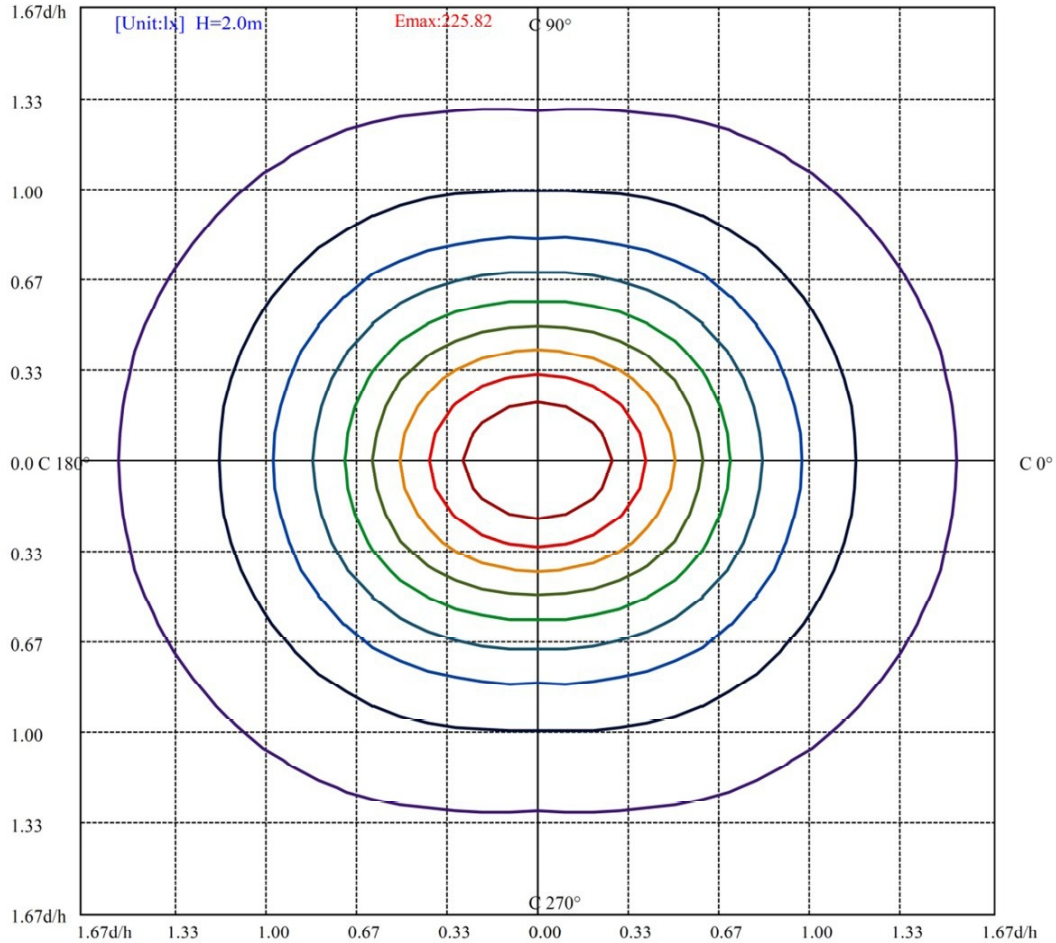
Zonal flux distribution table

2700K

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	903.280	0.000	0	0.00%	0.00%
5.0	900.796	21.567	21.567	0.68%	0.68%
10.0	892.860	64.165	85.732	2.03%	2.71%
15.0	878.782	105.093	190.825	3.33%	6.04%
20.0	858.160	143.148	333.973	4.53%	10.57%
25.0	830.268	177.085	511.058	5.60%	16.18%
30.0	794.092	205.564	716.622	6.51%	22.68%
35.0	746.540	226.869	943.491	7.18%	29.86%
40.0	690.122	239.696	1183.187	7.59%	37.45%
45.0	627.159	243.905	1427.092	7.72%	45.17%
50.0	555.727	239.019	1666.112	7.57%	52.73%
55.0	485.167	226.325	1892.437	7.16%	59.90%
60.0	417.220	208.584	2101.021	6.60%	66.50%
65.0	350.984	186.752	2287.773	5.91%	72.41%
70.0	291.370	162.648	2450.421	5.15%	77.56%
75.0	237.693	138.288	2588.71	4.38%	81.93%
80.0	188.351	113.997	2702.707	3.61%	85.54%
85.0	142.268	89.837	2792.544	2.84%	88.39%
90.0	108.321	68.613	2861.157	2.17%	90.56%
95.0	87.678	53.666	2914.823	1.70%	92.26%
100.0	72.461	43.513	2958.337	1.38%	93.63%
105.0	52.536	33.446	2991.782	1.06%	94.69%
110.0	39.271	23.997	3015.779	0.76%	95.45%
115.0	35.249	18.869	3034.648	0.60%	96.05%
120.0	34.301	16.908	3051.556	0.54%	96.58%
125.0	34.416	15.884	3067.44	0.50%	97.09%
130.0	34.637	15.014	3082.455	0.48%	97.56%
135.0	34.678	14.006	3096.461	0.44%	98.00%
140.0	34.534	12.815	3109.276	0.41%	98.41%
145.0	34.613	11.537	3120.812	0.37%	98.77%
150.0	34.689	10.205	3131.018	0.32%	99.10%
155.0	34.613	8.770	3139.788	0.28%	99.38%
160.0	33.796	7.175	3146.963	0.23%	99.60%
165.0	32.984	5.504	3152.467	0.17%	99.78%
170.0	33.660	3.953	3156.42	0.13%	99.90%
175.0	35.263	2.466	3158.885	0.08%	99.98%
180.0	17.935	0.636	3159.521	0.02%	100.00%

ISO illuminance diagram(Lux)

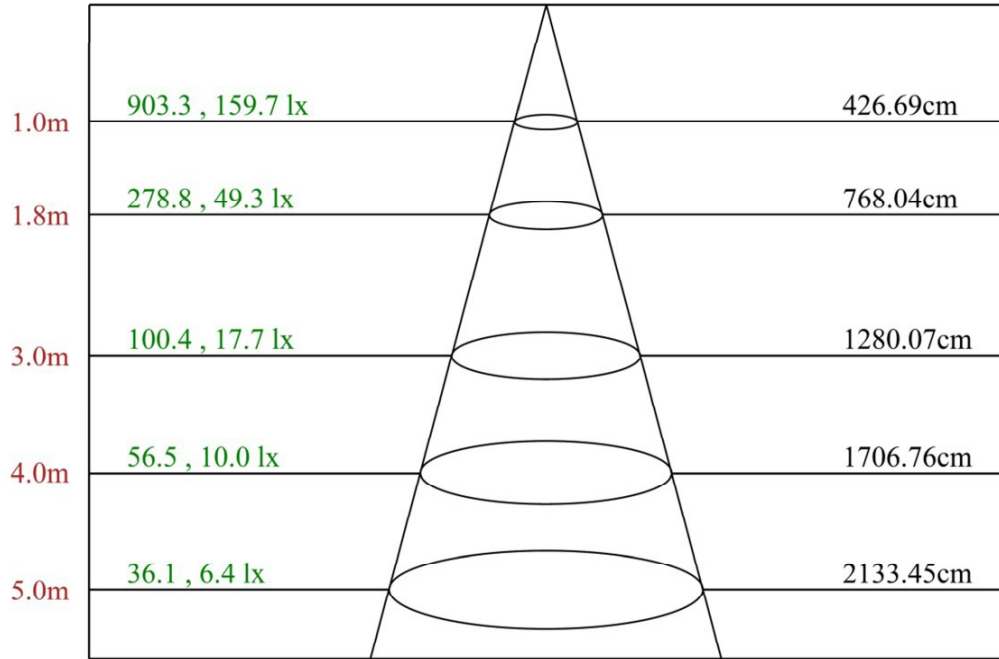
2700K



(10%Emax) 22.582	—
(20%Emax) 45.164	—
(30%Emax) 67.746	—
(40%Emax) 90.328	—
(50%Emax) 112.91	—
(60%Emax) 135.492	—
(70%Emax) 158.074	—
(80%Emax) 180.656	—
(90%Emax) 203.238	—

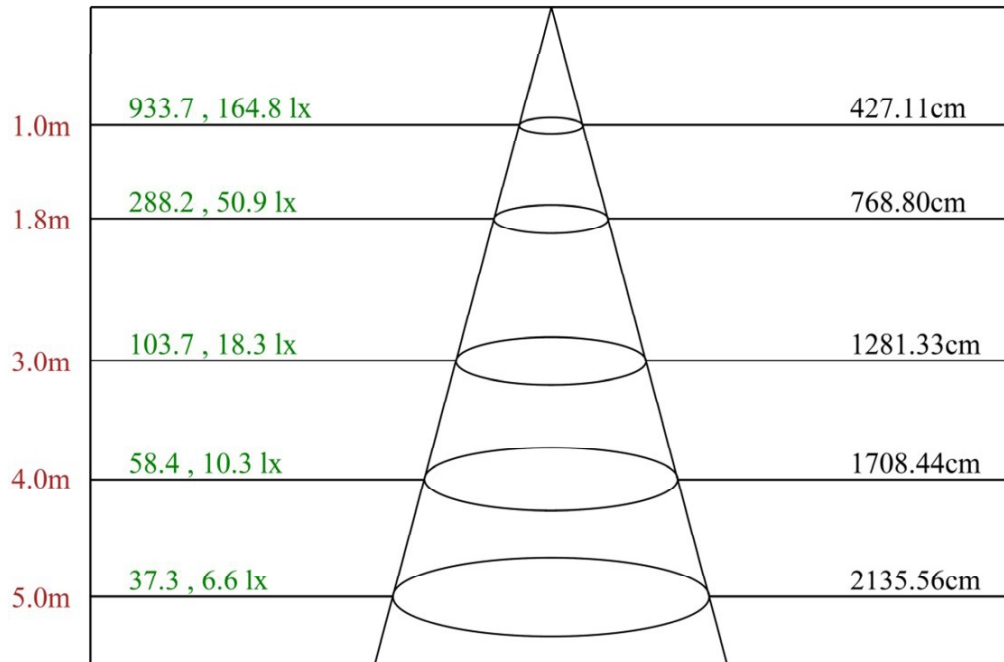
Lux distance Curve

2700K



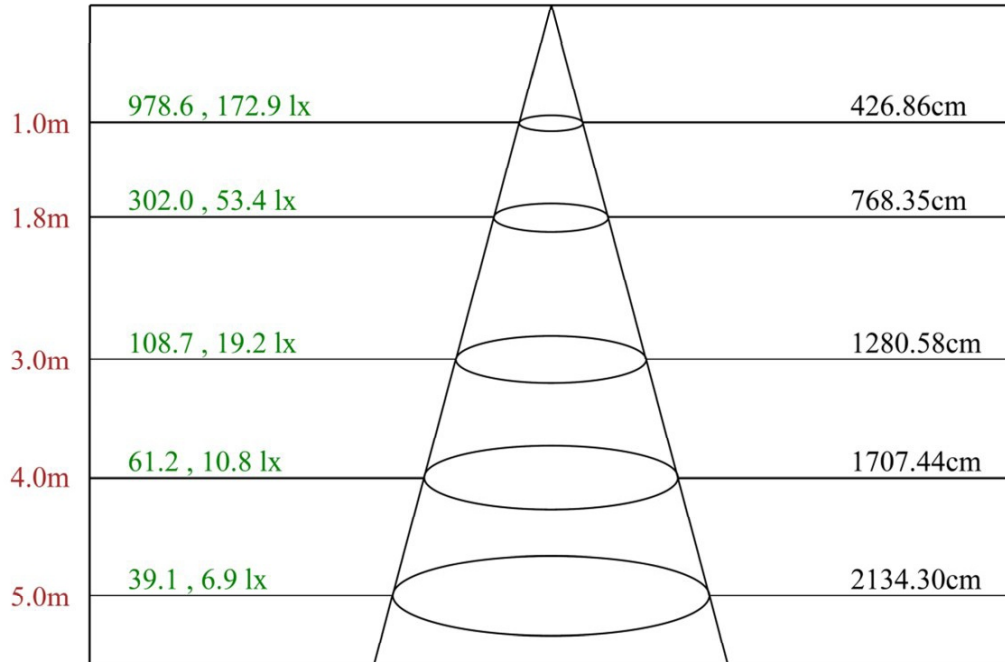
Max , Ave Beam angle of C0 plane 129.77

3000K



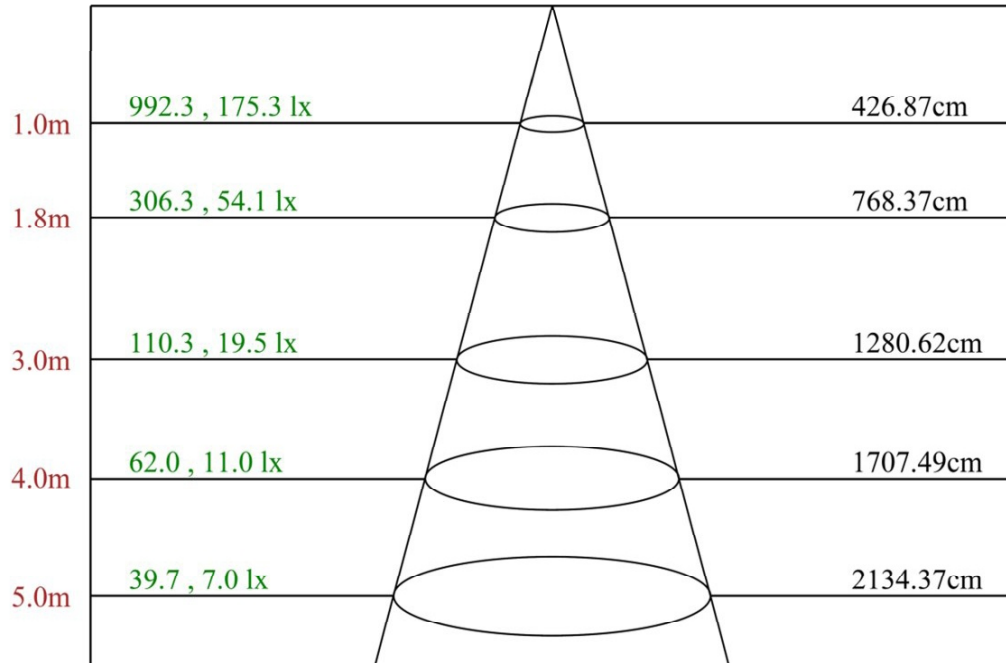
Max , Ave Beam angle of C0 plane 129.82

3500K



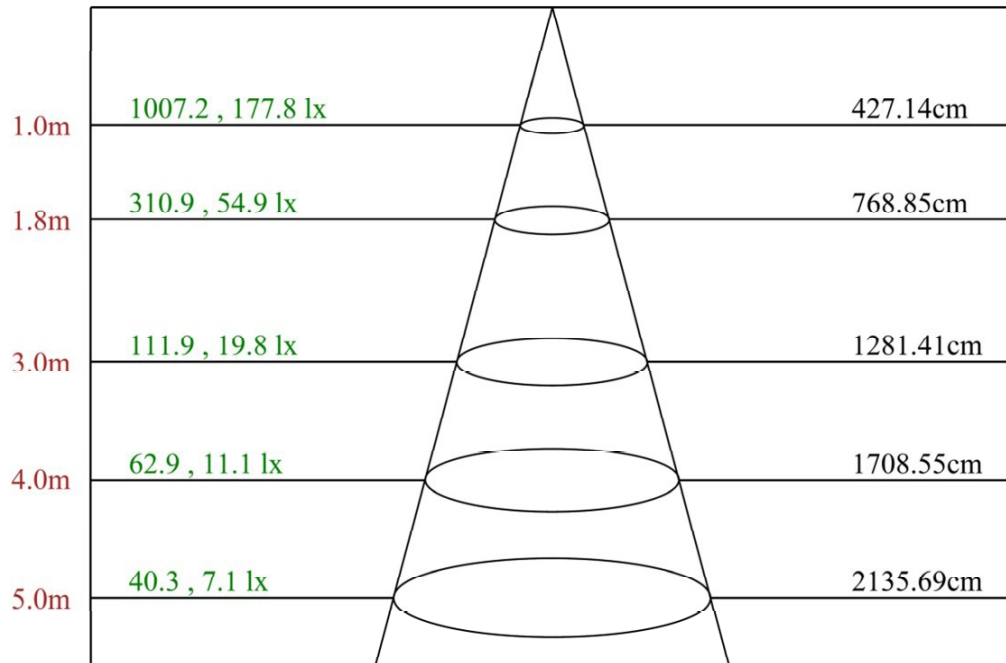
Max , Ave Beam angle of C0 plane 129.79

4000K



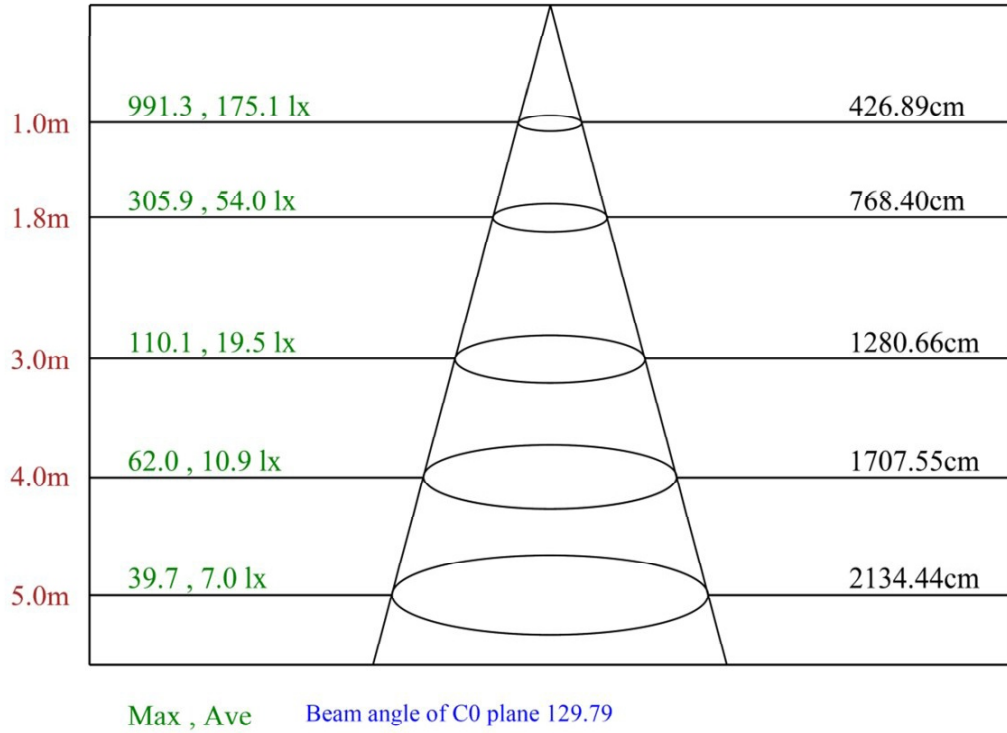
Max , Ave Beam angle of C0 plane 129.79

5000K



Max , Ave Beam angle of C0 plane 129.82

6500K



Utilization factor table

2700K

RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.17	1.17	1.17	1.13	1.13	1.13	1.06	1.06	1.06	0.99	0.99	0.99	0.93	0.93	0.93	0.91
1	1.00	0.95	0.90	0.96	0.92	0.88	0.90	0.87	0.84	0.85	0.82	0.79	0.80	0.77	0.75	0.73
2	0.86	0.79	0.73	0.83	0.77	0.71	0.78	0.73	0.68	0.74	0.69	0.65	0.69	0.66	0.62	0.59
3	0.75	0.67	0.60	0.73	0.65	0.59	0.69	0.62	0.57	0.65	0.59	0.54	0.61	0.56	0.52	0.50
4	0.67	0.57	0.51	0.65	0.56	0.50	0.61	0.54	0.48	0.57	0.51	0.46	0.54	0.49	0.45	0.42
5	0.59	0.50	0.43	0.58	0.49	0.43	0.54	0.47	0.41	0.51	0.45	0.40	0.49	0.43	0.39	0.36
6	0.53	0.44	0.38	0.52	0.43	0.37	0.49	0.42	0.36	0.46	0.40	0.35	0.44	0.38	0.34	0.32
7	0.48	0.39	0.33	0.47	0.39	0.33	0.45	0.37	0.32	0.42	0.36	0.31	0.40	0.34	0.30	0.28
8	0.44	0.35	0.29	0.43	0.35	0.29	0.41	0.33	0.28	0.39	0.32	0.28	0.37	0.31	0.27	0.25
9	0.40	0.32	0.26	0.39	0.31	0.26	0.37	0.30	0.25	0.36	0.29	0.25	0.34	0.28	0.24	0.22
10	0.37	0.29	0.24	0.36	0.29	0.24	0.35	0.28	0.23	0.33	0.27	0.23	0.32	0.26	0.22	0.20

Intensity data(cd)

2700K

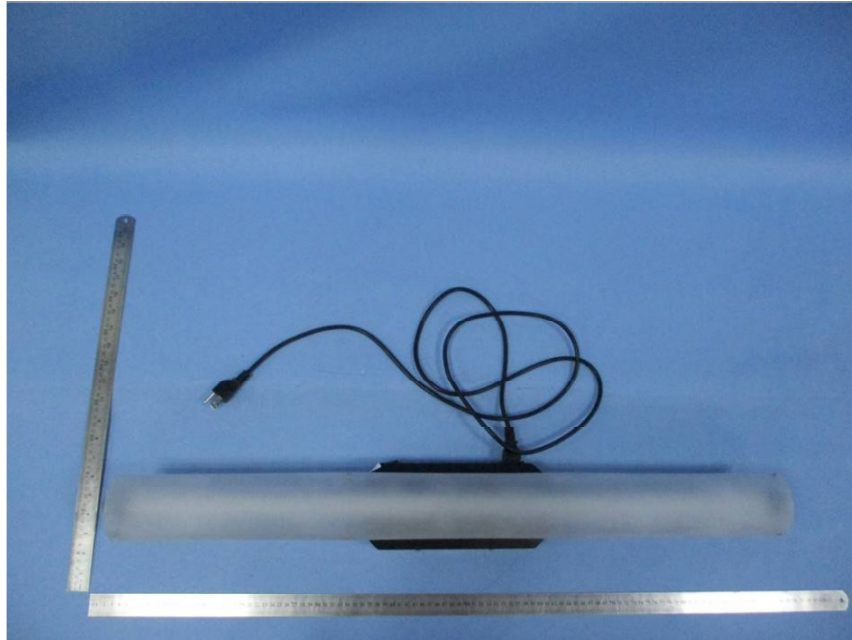
$C/\gamma(^{\circ})$	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	903.28	911.12	918.09	925.06	926.80	921.57	903.28	865.82	813.56
15.0	903.28	911.17	919.07	923.45	923.45	917.31	896.26	862.94	811.20
30.0	903.28	908.56	913.84	913.84	908.56	898.00	876.87	842.53	794.11
45.0	903.28	910.38	911.27	905.05	891.74	873.11	846.49	810.11	762.20
60.0	903.28	907.71	903.28	890.00	869.63	839.52	802.33	757.16	704.03
75.0	903.28	905.06	897.04	879.20	849.78	814.11	763.28	708.89	648.26
90.0	903.28	903.28	891.68	870.25	838.12	792.60	740.83	678.35	611.41
105.0	903.28	901.49	888.11	864.01	832.77	791.71	739.94	683.71	618.55
120.0	903.28	900.61	888.14	867.65	840.03	805.29	761.64	716.21	662.76
135.0	903.28	897.09	887.36	872.32	853.74	826.31	795.35	756.42	712.18
150.0	903.28	896.19	889.10	878.46	864.28	848.32	826.16	796.02	751.70
165.0	903.28	897.11	889.18	882.13	874.20	861.86	844.24	815.16	770.21
180.0	903.28	897.18	893.70	887.60	878.89	861.47	833.60	790.04	735.17
195.0	903.28	895.39	889.25	882.23	872.59	855.92	826.98	783.14	730.52
210.0	903.28	892.72	883.91	872.47	855.74	835.49	805.56	761.54	709.59
225.0	903.28	892.63	877.55	858.03	834.07	803.01	767.52	724.04	669.92
240.0	903.28	889.11	870.51	842.18	805.87	765.13	719.08	666.83	609.27
255.0	903.28	891.69	868.50	837.30	794.49	742.78	687.49	623.29	554.63
270.0	903.28	892.57	869.36	836.34	789.92	735.48	673.89	606.95	531.08
285.0	903.28	895.25	876.50	846.16	804.20	756.01	699.77	633.72	564.10
300.0	903.28	899.72	885.46	862.30	832.02	792.82	746.50	688.60	630.69
315.0	903.28	902.40	896.20	881.16	859.93	830.73	792.69	747.57	689.18
330.0	903.28	908.60	906.83	899.73	888.21	867.82	851.87	788.04	730.42
345.0	903.28	912.09	914.74	913.85	906.80	890.06	856.57	809.87	748.18
360.0	903.28	911.12	918.09	925.06	926.80	921.57	903.28	865.82	813.56
$C/\gamma(^{\circ})$	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	745.62	672.45	607.99	553.99	499.98	439.01	371.94	310.97	255.22
15.0	747.18	672.64	606.86	547.23	495.49	437.61	370.96	307.82	251.69
30.0	732.48	656.77	585.46	518.55	463.09	408.50	347.75	287.01	228.90
45.0	700.97	633.54	557.23	480.03	410.82	354.04	299.91	244.01	189.88
60.0	644.69	577.39	506.55	428.62	353.34	282.50	226.71	178.00	131.06
75.0	580.49	508.26	436.93	362.92	291.58	220.25	156.94	107.00	68.66
90.0	537.33	462.35	386.48	308.83	234.75	170.48	115.14	70.51	41.95
105.0	549.82	477.52	407.01	333.82	265.09	199.04	141.03	91.93	56.23
120.0	605.75	538.94	472.13	403.54	332.27	263.68	203.10	153.22	114.02
135.0	658.22	595.40	529.05	455.62	385.73	318.49	260.99	213.21	175.17
150.0	696.74	633.80	564.66	492.86	423.72	359.89	306.71	261.50	211.86
165.0	718.22	653.01	581.62	511.12	442.39	383.34	333.11	287.29	228.24
180.0	672.45	601.90	531.34	462.53	401.55	352.78	305.74	248.25	175.08
195.0	668.25	597.22	527.94	457.78	395.51	348.16	301.68	243.80	171.89
210.0	647.97	578.42	505.34	434.03	371.52	319.58	274.68	226.26	154.95
225.0	607.81	541.26	469.39	397.51	329.19	273.29	227.15	189.88	129.55
240.0	546.40	481.75	413.56	342.72	273.64	213.42	161.17	127.52	88.56
255.0	486.86	417.31	345.08	272.86	208.66	149.80	99.87	63.31	40.13
270.0	455.21	378.45	303.47	232.96	167.80	113.36	70.51	43.74	24.99
285.0	493.59	421.29	346.32	275.80	206.18	147.27	117.82	62.48	35.70
300.0	566.55	494.40	420.46	378.59	272.59	215.58	170.14	124.71	90.86
315.0	652.02	547.63	469.78	399.88	345.03	292.84	237.98	185.79	147.75
330.0	659.51	585.05	518.57	460.95	410.42	351.03	288.98	233.13	189.70
345.0	677.68	610.71	550.78	500.55	443.27	378.94	314.61	259.09	212.38
360.0	745.62	672.45	607.99	553.99	499.98	439.01	371.94	310.97	255.22
Intensity data(cd)									
2700K									

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	208.18	146.34	120.21	111.49	67.94	45.29	40.07	38.33	39.20
15.0	204.33	143.82	120.15	106.99	64.90	44.73	39.46	38.59	38.59
30.0	184.00	128.54	117.09	92.44	51.94	40.50	37.86	36.98	37.86
45.0	149.07	101.15	108.25	65.66	40.82	36.38	35.49	36.38	36.38
60.0	93.87	62.88	62.88	33.65	30.11	30.99	31.88	31.88	31.88
75.0	39.23	33.88	20.51	22.29	24.97	24.97	24.97	27.64	28.53
90.0	24.10	9.82	21.42	22.31	22.31	23.21	24.10	24.99	24.99
105.0	32.13	30.35	16.96	21.42	23.21	24.99	25.88	27.67	28.56
120.0	80.17	69.48	48.99	30.29	28.51	30.29	31.18	31.18	32.07
135.0	121.20	104.39	92.89	52.20	37.16	32.73	33.62	35.39	35.39
150.0	148.92	128.53	115.24	78.01	46.09	39.00	36.34	37.23	38.12
165.0	161.27	138.36	124.26	90.77	56.40	43.18	38.77	37.89	38.77
180.0	145.47	132.40	105.40	67.94	46.17	42.68	40.07	39.20	40.07
195.0	144.70	129.79	99.10	63.14	45.60	41.22	39.46	39.46	40.34
210.0	136.46	121.49	84.52	51.94	43.14	39.62	38.74	39.62	39.62
225.0	118.01	100.27	60.34	40.82	38.15	37.27	39.04	38.15	37.27
240.0	84.13	58.45	35.42	32.77	35.42	36.31	36.31	35.42	33.65
255.0	38.34	23.18	27.64	29.43	28.53	28.53	29.43	29.43	30.32
270.0	5.36	24.10	23.21	23.21	23.21	24.10	24.10	24.10	25.88
285.0	33.03	21.42	24.10	24.99	27.67	28.56	28.56	29.45	29.45
300.0	61.47	57.01	33.85	32.07	32.96	33.85	32.96	32.96	32.07
315.0	99.09	105.28	62.81	41.58	37.16	37.16	37.16	36.27	35.39
330.0	132.97	116.12	96.62	54.96	43.44	39.00	38.12	39.00	38.12
345.0	154.22	117.21	117.21	70.50	46.71	41.42	39.66	38.77	38.77
360.0	208.18	146.34	120.21	111.49	67.94	45.29	40.07	38.33	39.20
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	39.20	39.20	37.46	36.58	36.58	36.58	37.46	37.46	38.33
15.0	38.59	38.59	36.83	36.83	35.96	36.83	37.71	37.71	38.59
30.0	37.86	36.98	36.10	36.10	36.10	36.98	36.98	37.86	38.74
45.0	35.49	33.72	35.49	33.72	36.38	37.27	37.27	38.15	39.04
60.0	31.88	31.88	32.77	33.65	36.31	36.31	37.19	37.19	37.19
75.0	30.32	31.21	32.10	32.99	33.88	32.99	32.99	33.88	36.56
90.0	25.88	28.56	29.45	30.35	30.35	28.56	25.88	29.45	35.70
105.0	29.45	30.35	31.24	32.13	32.13	29.45	25.88	28.56	33.92
120.0	32.96	32.96	32.96	33.85	35.63	32.96	28.51	27.62	32.96
135.0	35.39	35.39	35.39	35.39	36.27	37.16	31.85	25.66	30.08
150.0	38.12	37.23	37.23	37.23	37.23	37.23	37.23	31.03	25.71
165.0	39.66	38.77	37.89	37.89	37.01	37.89	37.89	37.89	29.96
180.0	39.20	38.33	38.33	37.46	37.46	37.46	37.46	38.33	30.49
195.0	39.46	37.71	37.71	36.83	36.83	36.83	36.83	29.82	23.68
210.0	37.86	36.98	36.98	36.10	36.98	36.98	29.93	22.89	32.57
225.0	36.38	36.38	35.49	36.38	36.38	31.06	23.96	29.28	37.27
240.0	33.65	33.65	33.65	35.42	32.77	25.68	24.80	30.99	38.08
255.0	31.21	32.10	32.99	32.99	27.64	23.18	25.86	32.99	38.34
270.0	28.56	29.45	30.35	29.45	24.99	22.31	25.88	33.03	38.38
285.0	30.35	31.24	32.13	32.13	30.35	30.35	32.13	36.60	38.38
300.0	32.07	32.07	32.96	33.85	35.63	36.52	36.52	37.41	38.30
315.0	33.62	33.62	33.62	33.62	35.39	36.27	37.16	38.04	38.04
330.0	36.34	35.46	35.46	35.46	36.34	37.23	37.23	38.12	38.12
345.0	38.77	37.01	36.13	36.13	36.13	37.01	37.01	37.89	37.89
360.0	39.20	39.20	37.46	36.58	36.58	37.46	37.46	37.46	38.33
Intensity data(cd)									
2700K									

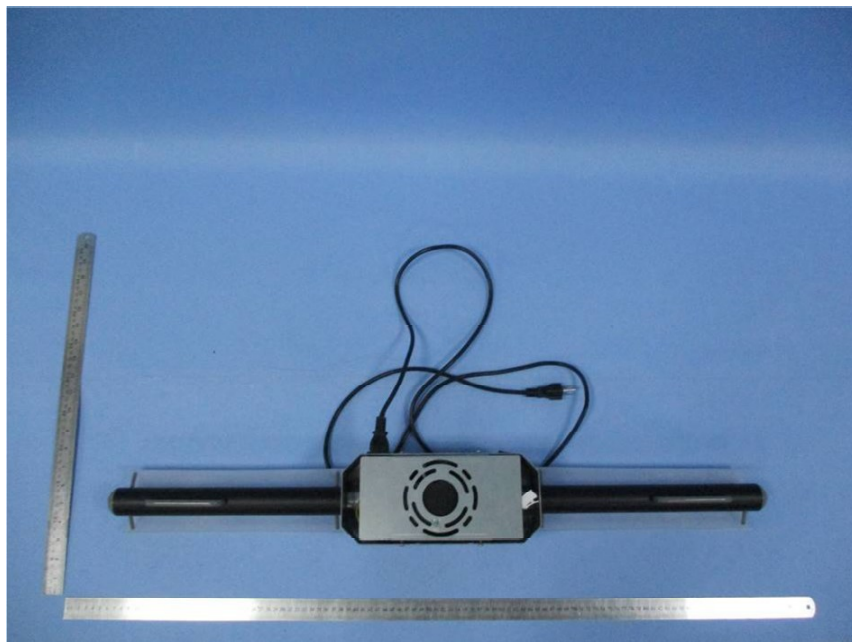


C/γ(°)	180.0
0.0	22.65
15.0	36.83
30.0	38.74
45.0	39.04
60.0	38.97
75.0	38.34
90.0	38.38
105.0	38.38
120.0	38.30
135.0	37.16
150.0	35.46
165.0	28.20
180.0	0.00
195.0	0.00
210.0	0.00
225.0	0.00
240.0	0.00
255.0	0.00
270.0	0.00
285.0	0.00
300.0	0.00
315.0	0.00
330.0	0.00
345.0	0.00
360.0	22.65

Appendix A Product Photo



Picture 1



Picture 2

****End of test report****