



**IESNA
SUSTAINING
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Test Report Number:	LCZP19100017	 <p>Total Page:11 Version:1.0</p>	
Applicant Name:	Zhongshan Bonfire Lighting Company Limited		
Applicant Address:	NO.6 West Dong'an Rd, Haizhou Guzhen, Zhongshan, Guangdong, China		
Test item:	Lightray LED Outdoor Wall Sconce		
Model / Type Reference:	86152		
Date of Issue:	2019-10-14		
Testing Laboratory:	LCTECH Guangdong Testing Services Co., Ltd. 2/F., Building II, Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China Tel:+86-760-22833366 Fax:+86-760-22833399 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.1.3		
Test Result:	See the following pages		
Compiled by:	Reviewed by:		
2019-10-14	Kargel Yuan 	2019-10-14	Lin Qiu 
<i>Date</i>	<i>Name</i> <i>Signature</i>	<i>Date</i>	<i>Name</i> <i>Signature</i>
Remark:			
N/A			
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Sample Description

Luminaire Type	Lightray LED Outdoor Wall Sconce	Model/Type	86152
Input Type	<input checked="" type="checkbox"/> AC <input type="checkbox"/> DC	Rated Voltage	120VAC,60Hz
Rated Wattage	6 W	Lamp Rated Flux	N/A
Lamp Type	LED	Lamp Model	N/A
Power Supply Type	LED driver	Power Supply Model	Not Provided
Luminous Length	170 mm	Luminous Width	70 mm
Luminous Diameter	N/A	Luminous Height	0 mm
Sample Code of lab.	191010103001		

Test Condition

Temperature	25.0°C	Humidity	65%
Test Equipment	LC-I-902 GMS-2000	Test Mode	C-Gamma
Test Date	2019-10-11	Test Method	Absolutely photometric
Azimuth (C)	15	Elevation (Gamma)	5
Test distance	30.00 m	Uncertainty	Considered
Stabilization	2 hours		

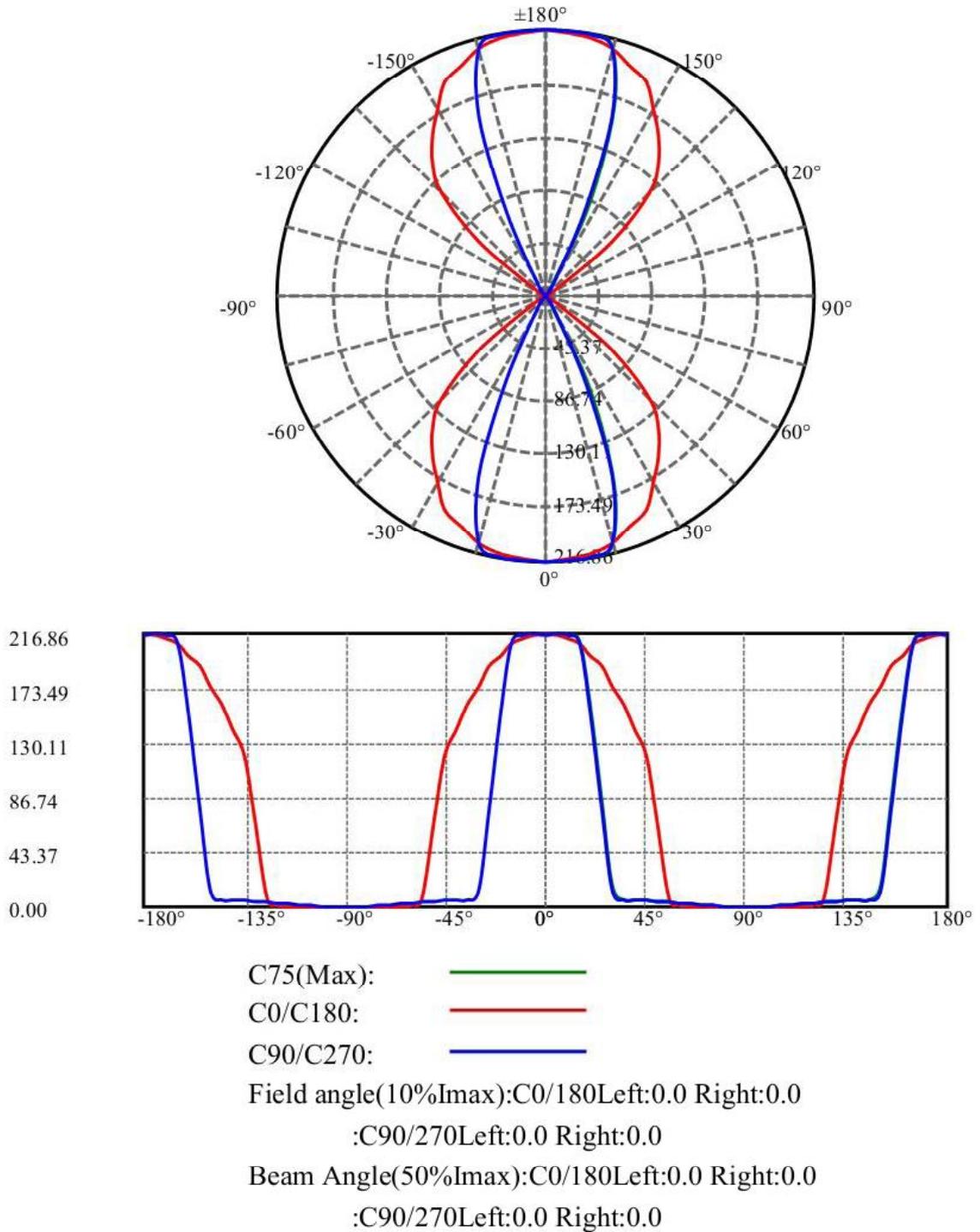
Characteristics

Input Voltage	119.99 V	Input Current	0.117 A
Wattage	13.13 W	Power Factor	0.936
Total lumens	414.01 lm	Luminous Efficacy	31.53 lm/W
Luminaire Efficiency	100%	Central Intensity	216.179 cd
Max intensity	216.857 cd	Angle of max intensity	C=75.0, Gamma=5.0
Maximum S/H	C0_180= 1.20,C90_270= 0.79	CIE Type	General Diffuse lighting

Luminance Data (cd/m²)

Gamma	45	50	55	60	65	70	75	80	85
C0	15731	10084	1239	167	0	0	0	0	0
C45	534	588	512	420	298	246	243	0	0
C90	713	653	586	504	497	368	324	242	0

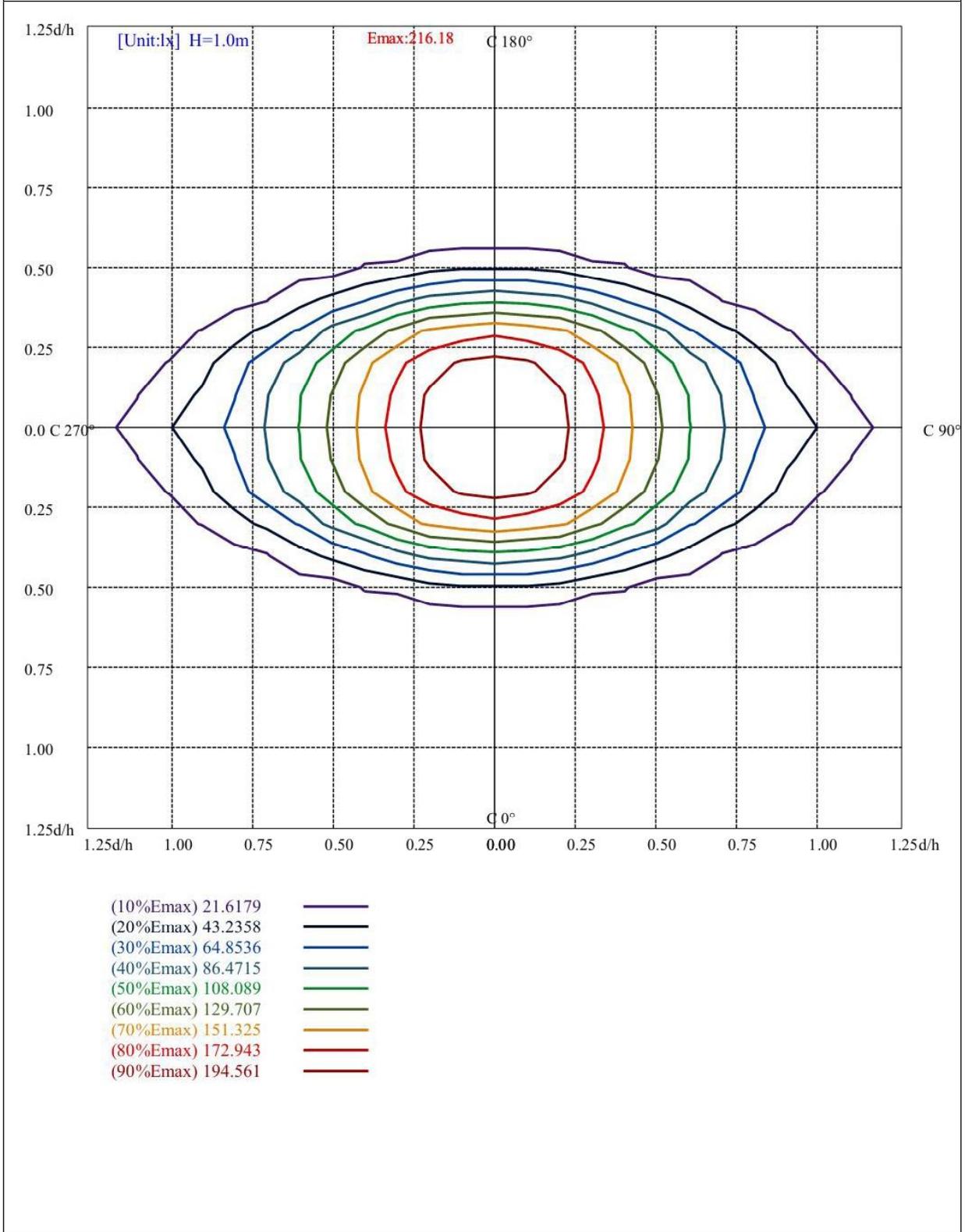
Light Distribution Curve(cd)



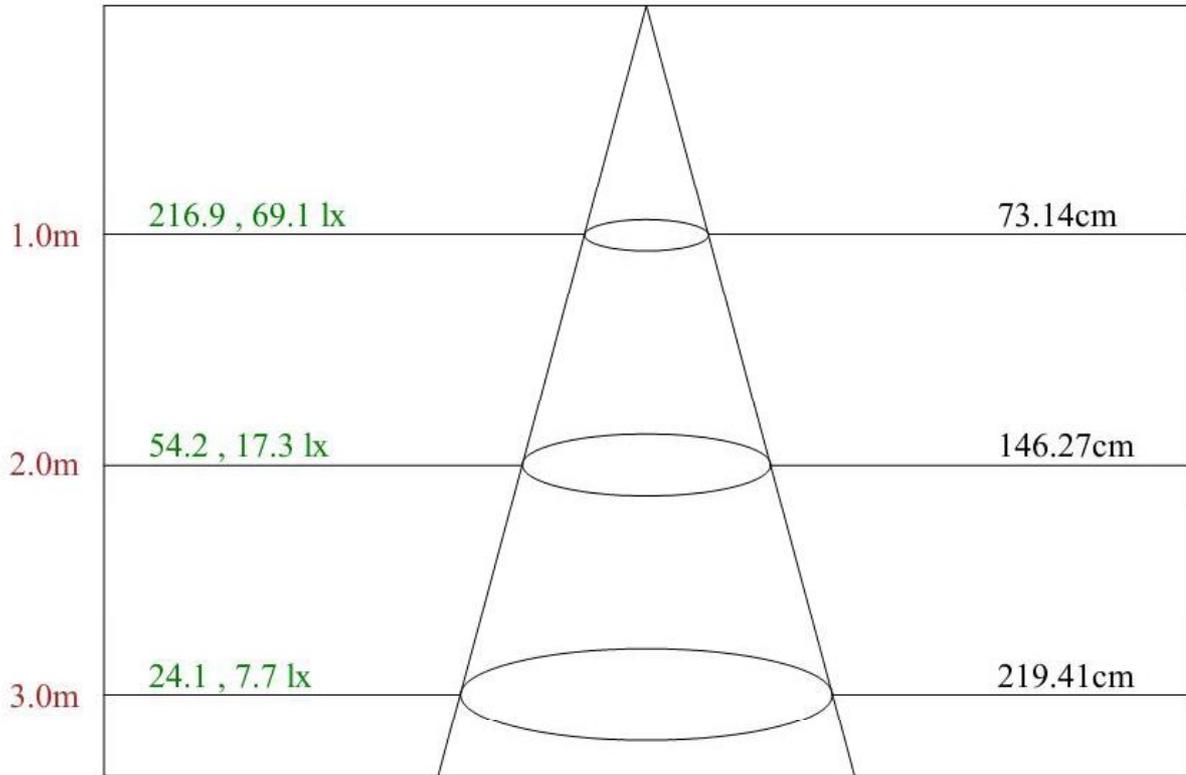
Zonal flux distribution table

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	216.179	.000	.000	.000%	.000%
5.0	215.881	5.165	5.165	1.248%	1.248%
10.0	215.018	15.415	20.580	3.723%	4.971%
15.0	209.617	25.189	45.769	6.084%	11.055%
20.0	187.472	32.726	78.494	7.905%	18.960%
25.0	144.691	34.838	113.332	8.415%	27.374%
30.0	93.812	30.183	143.515	7.290%	34.665%
35.0	60.841	22.774	166.289	5.501%	40.165%
40.0	38.534	16.580	182.869	4.005%	44.170%
45.0	22.570	11.314	194.183	2.733%	46.903%
50.0	10.069	6.595	200.778	1.593%	48.496%
55.0	3.225	2.890	203.668	.698%	49.194%
60.0	1.989	1.205	204.873	.291%	49.485%
65.0	1.389	.821	205.694	.198%	49.683%
70.0	.976	.599	206.293	.145%	49.828%
75.0	.638	.422	206.715	.102%	49.930%
80.0	.225	.231	206.946	.056%	49.986%
85.0	.000	.061	207.007	.015%	50.000%
90.0	.000	.000	207.007	.000%	50.000%
95.0	.000	.000	207.007	.000%	50.000%
100.0	.225	.061	207.068	.015%	50.015%
105.0	.638	.231	207.299	.056%	50.071%
110.0	.976	.422	207.721	.102%	50.173%
115.0	1.389	.599	208.319	.145%	50.317%
120.0	1.989	.821	209.140	.198%	50.516%
125.0	3.225	1.205	210.345	.291%	50.807%
130.0	10.070	2.891	213.236	.698%	51.505%
135.0	22.572	6.596	219.832	1.593%	53.098%
140.0	38.528	11.313	231.145	2.733%	55.831%
145.0	60.839	16.579	247.723	4.004%	59.835%
150.0	93.813	22.773	270.497	5.501%	65.336%
155.0	144.689	30.183	300.680	7.290%	72.626%
160.0	187.473	34.838	335.517	8.415%	81.041%
165.0	209.617	32.726	368.243	7.905%	88.945%
170.0	215.019	25.189	393.432	6.084%	95.030%
175.0	215.880	15.415	408.847	3.723%	98.753%
180.0	216.181	5.165	414.012	1.248%	100.000%

ISO illuminance diagram(Lux)



Lux distance Curve



Max , Ave

Beam angle of C75plane396.18

Utilization factor table

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	1.07	1.07	1.07	0.99	0.99	0.99	0.83	0.83	0.83	0.69	0.69	0.69	0.56	0.56	0.56	0.50
1	0.97	0.93	0.91	0.90	0.87	0.85	0.76	0.75	0.73	0.64	0.63	0.62	0.53	0.52	0.52	0.47
2	0.87	0.82	0.78	0.81	0.77	0.74	0.70	0.67	0.65	0.59	0.58	0.56	0.50	0.49	0.48	0.43
3	0.79	0.73	0.69	0.74	0.69	0.65	0.64	0.61	0.58	0.55	0.53	0.51	0.47	0.45	0.44	0.40
4	0.72	0.66	0.61	0.68	0.62	0.58	0.59	0.55	0.52	0.51	0.48	0.46	0.44	0.42	0.40	0.37
5	0.66	0.59	0.55	0.62	0.56	0.52	0.55	0.50	0.47	0.48	0.45	0.42	0.41	0.39	0.37	0.34
6	0.61	0.54	0.49	0.57	0.51	0.47	0.51	0.46	0.43	0.45	0.41	0.39	0.39	0.36	0.35	0.32
7	0.56	0.49	0.45	0.53	0.47	0.43	0.47	0.43	0.39	0.42	0.38	0.36	0.37	0.34	0.32	0.30
8	0.52	0.45	0.41	0.49	0.43	0.39	0.44	0.39	0.36	0.39	0.36	0.33	0.34	0.32	0.30	0.28
9	0.48	0.42	0.38	0.46	0.40	0.36	0.41	0.37	0.34	0.37	0.33	0.31	0.33	0.30	0.28	0.26
10	0.45	0.39	0.35	0.43	0.37	0.34	0.39	0.34	0.31	0.35	0.31	0.29	0.31	0.28	0.27	0.25

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	216.18	215.28	213.49	209.00	199.58	191.51	174.92	159.67	140.83
15.0	216.18	215.28	214.38	209.21	200.67	190.56	175.95	159.10	115.06
30.0	216.18	215.51	214.83	210.10	201.77	190.07	152.45	89.64	27.71
45.0	216.18	215.95	215.50	209.87	200.64	156.05	86.25	21.39	4.73
60.0	216.18	215.73	215.06	209.89	182.24	113.93	36.63	6.29	5.17
75.0	216.18	216.86	215.73	209.63	161.79	83.72	17.60	5.87	5.42
90.0	216.18	216.63	215.73	208.97	155.83	76.11	13.06	5.85	5.40
105.0	216.18	216.86	215.73	209.63	161.79	83.72	17.60	5.87	5.42
120.0	216.18	215.73	215.06	209.89	182.24	113.93	36.63	6.29	5.17
135.0	216.18	215.95	215.50	209.87	200.64	156.05	86.25	21.39	4.73
150.0	216.18	215.51	214.83	210.10	201.77	190.07	152.45	89.64	27.71
165.0	216.18	215.28	214.38	209.21	200.67	190.56	175.95	159.10	115.06
180.0	216.18	215.28	213.49	209.00	199.58	191.51	174.92	159.67	140.83
195.0	216.18	215.28	214.38	209.21	200.67	190.56	175.95	159.10	115.06
210.0	216.18	215.51	214.83	210.10	201.77	190.07	152.45	89.64	27.71
225.0	216.18	215.95	215.50	209.87	200.64	156.05	86.25	21.39	4.73
240.0	216.18	215.73	215.06	209.89	182.24	113.93	36.63	6.29	5.17
255.0	216.18	216.86	215.73	209.63	161.79	83.72	17.60	5.87	5.42
270.0	216.18	216.63	215.73	208.97	155.83	76.11	13.06	5.85	5.40
285.0	216.18	216.86	215.73	209.63	161.79	83.72	17.60	5.87	5.42
300.0	216.18	215.73	215.06	209.89	182.24	113.93	36.63	6.29	5.17
315.0	216.18	215.95	215.50	209.87	200.64	156.05	86.25	21.39	4.73
330.0	216.18	215.51	214.83	210.10	201.77	190.07	152.45	89.64	27.71
345.0	216.18	215.28	214.38	209.21	200.67	190.56	175.95	159.10	115.06
360.0	216.18	215.28	213.49	209.00	199.58	191.51	174.92	159.67	140.83
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	119.30	69.52	7.62	0.90	0.00	0.00	0.00	0.00	0.00
15.0	55.27	7.64	1.12	0.90	0.90	0.90	0.00	0.00	0.00
30.0	3.83	2.93	2.25	1.80	1.35	0.90	0.90	0.23	0.00
45.0	4.05	4.05	3.15	2.25	1.35	0.90	0.68	0.00	0.00
60.0	4.49	4.27	3.60	2.47	1.35	1.12	0.90	0.45	0.00
75.0	5.42	4.51	3.61	2.71	2.26	1.35	0.90	0.45	0.00
90.0	5.40	4.50	3.60	2.70	2.25	1.35	0.90	0.45	0.00
105.0	5.42	4.51	3.61	2.71	2.26	1.35	0.90	0.45	0.00
120.0	4.49	4.27	3.60	2.47	1.35	1.12	0.90	0.45	0.00
135.0	4.05	4.05	3.15	2.25	1.35	0.90	0.68	0.00	0.00
150.0	3.83	2.93	2.25	1.80	1.35	0.90	0.90	0.23	0.00
165.0	55.27	7.64	1.12	0.90	0.90	0.90	0.00	0.00	0.00
180.0	119.30	69.52	7.62	0.90	0.00	0.00	0.00	0.00	0.00
195.0	55.27	7.64	1.12	0.90	0.90	0.90	0.00	0.00	0.00
210.0	3.83	2.93	2.25	1.80	1.35	0.90	0.90	0.23	0.00
225.0	4.05	4.05	3.15	2.25	1.35	0.90	0.68	0.00	0.00
240.0	4.49	4.27	3.60	2.47	1.35	1.12	0.90	0.45	0.00
255.0	5.42	4.51	3.61	2.71	2.26	1.35	0.90	0.45	0.00
270.0	5.40	4.50	3.60	2.70	2.25	1.35	0.90	0.45	0.00
285.0	5.42	4.51	3.61	2.71	2.26	1.35	0.90	0.45	0.00
300.0	4.49	4.27	3.60	2.47	1.35	1.12	0.90	0.45	0.00
315.0	4.05	4.05	3.15	2.25	1.35	0.90	0.68	0.00	0.00
330.0	3.83	2.93	2.25	1.80	1.35	0.90	0.90	0.23	0.00
345.0	55.27	7.64	1.12	0.90	0.90	0.90	0.00	0.00	0.00
360.0	119.30	69.52	7.62	0.90	0.00	0.00	0.00	0.00	0.00

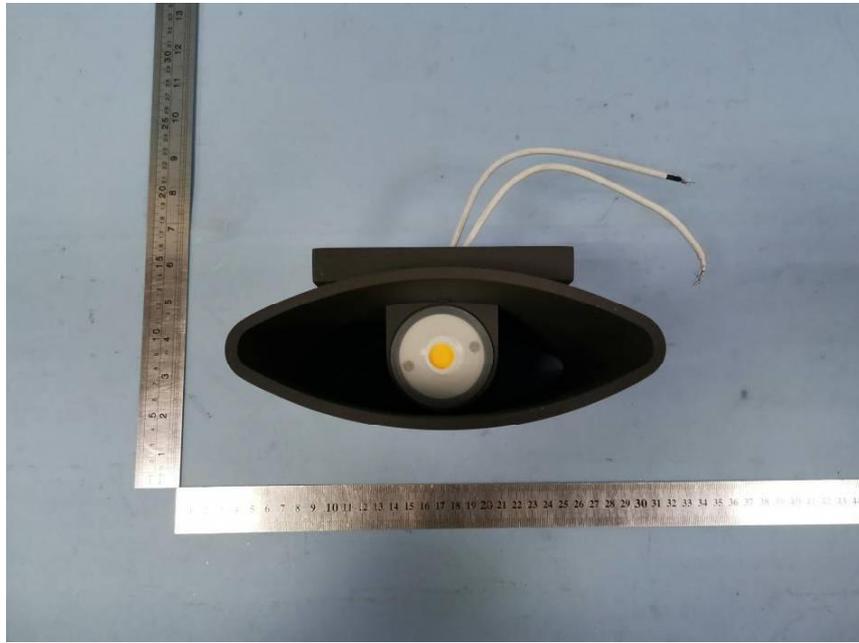
Intensity data(cd)

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.90	7.62	69.52
15.0	0.00	0.00	0.00	0.00	0.90	0.90	0.90	1.12	7.64
30.0	0.00	0.00	0.22	0.90	0.90	1.35	1.80	2.25	2.93
45.0	0.00	0.00	0.00	0.68	0.90	1.35	2.25	3.15	4.05
60.0	0.00	0.00	0.45	0.90	1.12	1.35	2.47	3.60	4.27
75.0	0.00	0.00	0.45	0.90	1.35	2.26	2.71	3.61	4.51
90.0	0.00	0.00	0.45	0.90	1.35	2.25	2.70	3.60	4.50
105.0	0.00	0.00	0.45	0.90	1.35	2.26	2.71	3.61	4.51
120.0	0.00	0.00	0.45	0.90	1.12	1.35	2.47	3.60	4.27
135.0	0.00	0.00	0.00	0.68	0.90	1.35	2.25	3.15	4.05
150.0	0.00	0.00	0.22	0.90	0.90	1.35	1.80	2.25	2.93
165.0	0.00	0.00	0.00	0.00	0.90	0.90	0.90	1.12	7.64
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.90	7.62	69.52
195.0	0.00	0.00	0.00	0.00	0.90	0.90	0.90	1.12	7.64
210.0	0.00	0.00	0.22	0.90	0.90	1.35	1.80	2.25	2.93
225.0	0.00	0.00	0.00	0.68	0.90	1.35	2.25	3.15	4.05
240.0	0.00	0.00	0.45	0.90	1.12	1.35	2.47	3.60	4.27
255.0	0.00	0.00	0.45	0.90	1.35	2.26	2.71	3.61	4.51
270.0	0.00	0.00	0.45	0.90	1.35	2.25	2.70	3.60	4.50
285.0	0.00	0.00	0.45	0.90	1.35	2.26	2.71	3.61	4.51
300.0	0.00	0.00	0.45	0.90	1.12	1.35	2.47	3.60	4.27
315.0	0.00	0.00	0.00	0.68	0.90	1.35	2.25	3.15	4.05
330.0	0.00	0.00	0.22	0.90	0.90	1.35	1.80	2.25	2.93
345.0	0.00	0.00	0.00	0.00	0.90	0.90	0.90	1.12	7.64
360.0	0.00	0.00	0.00	0.00	0.00	0.00	0.90	7.62	69.52
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	119.30	140.83	159.67	174.92	191.51	199.58	209.00	213.49	215.28
15.0	55.29	115.05	159.10	175.96	190.57	200.67	209.21	214.38	215.28
30.0	3.83	27.69	89.62	152.46	190.05	201.77	210.10	214.84	215.50
45.0	4.05	4.73	21.39	86.25	156.05	200.64	209.87	215.50	215.95
60.0	4.49	5.17	6.29	36.63	113.93	182.25	209.89	215.06	215.73
75.0	5.42	5.42	5.87	17.60	83.72	161.80	209.64	215.73	216.86
90.0	5.40	5.40	5.85	13.06	76.11	155.83	208.97	215.73	216.63
105.0	5.42	5.42	5.87	17.60	83.72	161.80	209.64	215.73	216.86
120.0	4.49	5.17	6.29	36.63	113.93	182.25	209.89	215.06	215.73
135.0	4.05	4.73	21.39	86.25	156.05	200.64	209.87	215.50	215.95
150.0	3.83	27.69	89.62	152.46	190.05	201.77	210.10	214.84	215.50
165.0	55.29	115.05	159.10	175.96	190.57	200.67	209.21	214.38	215.28
180.0	119.30	140.83	159.67	174.92	191.51	199.58	209.00	213.49	215.28
195.0	55.29	115.05	159.10	175.96	190.57	200.67	209.21	214.38	215.28
210.0	3.83	27.69	89.62	152.46	190.05	201.77	210.10	214.84	215.50
225.0	4.05	4.73	21.39	86.25	156.05	200.64	209.87	215.50	215.95
240.0	4.49	5.17	6.29	36.63	113.93	182.25	209.89	215.06	215.73
255.0	5.42	5.42	5.87	17.60	83.72	161.80	209.64	215.73	216.86
270.0	5.40	5.40	5.85	13.06	76.11	155.83	208.97	215.73	216.63
285.0	5.42	5.42	5.87	17.60	83.72	161.80	209.64	215.73	216.86
300.0	4.49	5.17	6.29	36.63	113.93	182.25	209.89	215.06	215.73
315.0	4.05	4.73	21.39	86.25	156.05	200.64	209.87	215.50	215.95
330.0	3.83	27.69	89.62	152.46	190.05	201.77	210.10	214.84	215.50
345.0	55.29	115.05	159.10	175.96	190.57	200.67	209.21	214.38	215.28
360.0	119.30	140.83	159.67	174.92	191.51	199.58	209.00	213.49	215.28

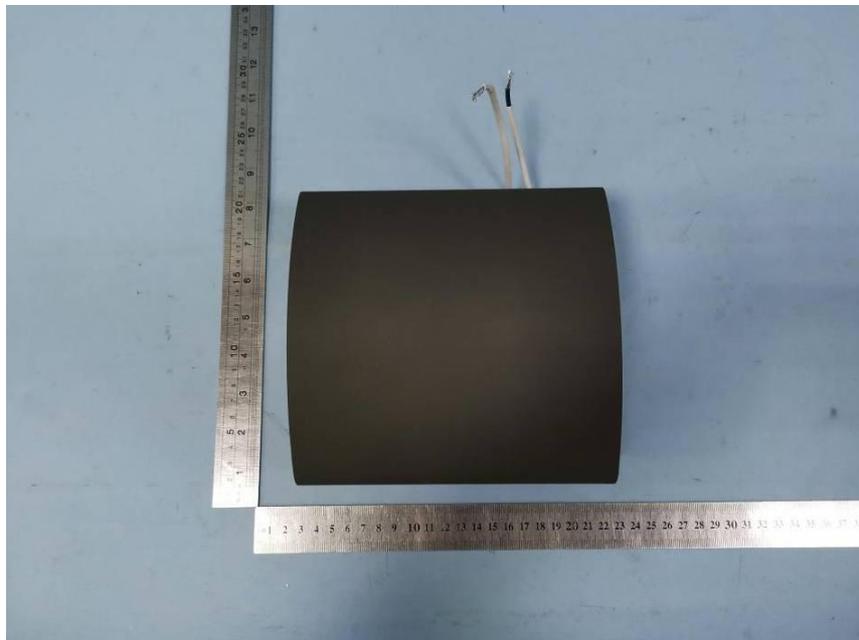
Intensity data(cd)

<i>C/γ(°)</i>	180.0
0.0	216.18
15.0	216.18
30.0	216.19
45.0	216.18
60.0	216.18
75.0	216.18
90.0	216.18
105.0	216.18
120.0	216.18
135.0	216.18
150.0	216.19
165.0	216.18
180.0	216.18
195.0	216.18
210.0	216.19
225.0	216.18
240.0	216.18
255.0	216.18
270.0	216.18
285.0	216.18
300.0	216.18
315.0	216.18
330.0	216.19
345.0	216.18
360.0	216.18

Appendix A Product Photo



Picture 1



Picture 2

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