



Shenzhen Belling Efficiency Testing Lab Co.,Ltd  
www.bellingeel.com

Tel:+86 755-21038430

Address:1Floor, No.1 Building,Meibaohe Industrial Park,Dalang Street,Longhua District,Shenzhen,Guangdong Prov.518101 China

---

Report No	:	Voltage	:	120.04 V
Test No	:	Current	:	0.206 A
LumCAT	:	Power	:	24.456 W
Luminaire	:	PF	:	0.99
LampCAT	:	Ballast type	:	
Lamp flux	:	Width	:	0 mm
Number of Lamps	:	Length	:	0 mm
Phm Type	:	Height	:	0 mm

### Photometric Results

---

Lumens(lm)	:	1810.49	Central intensity(cd)	:	489.178
Efficiency(%)	:	100.00%	Maximum intensity(cd)	:	524.307
Luminous Efficacy(lm/W)	:	74.03	Angle of maximum intensity	:	C=90.0 $\gamma$ =5.0
Beam Angle(50%Imax)	:	[C0/180]Total=121.7 [C90/270]Total=121.4			
Field angle(10%Imax)	:	[C0/180]Total=200.3 [C90/270]Total=193.4			
Maximum s/h(1/2)	:	C0_180=1.30 C90_270=1.30			
Maximum s/h(1/4)	:	C0_180=1.43 C90_270=1.43			
Up flux rate of lamp(%)	:	17444.77%			
Down flux rate of lamp(%)	:	163603.80%			
Up flux rate of LUM(%)	:	9.64%			
Down flux rate of LUM(%)	:	90.36%			
CIE Type	:	Direct lighting			
Output flux ratio in $\pi$ solid angle	:	64.328%			

---

Equipment: GMS-3000  
Temperature(°C): 25

Date:  
Humidity(%): 59%

Operator: Zac

## Zonal flux distribution table

Appendix Page: 2 Total:7

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	490.701	0.000	0	0.00%	0.00%
5.0	492.604	11.755	11.755	1175.51%	0.65%
10.0	483.238	34.909	46.664	3490.89%	2.58%
15.0	473.770	56.769	103.433	5676.91%	5.71%
20.0	460.977	77.036	180.469	7703.63%	9.97%
25.0	445.012	95.021	275.491	9502.15%	15.22%
30.0	425.746	110.195	385.686	11019.51%	21.30%
35.0	403.663	122.136	507.822	12213.63%	28.05%
40.0	378.458	130.491	638.313	13049.09%	35.26%
45.0	350.511	134.975	773.288	13497.45%	42.71%
50.0	319.468	135.379	908.667	13537.91%	50.19%
55.0	286.395	131.735	1040.402	13173.47%	57.47%
60.0	251.138	124.249	1164.651	12424.91%	64.33%
65.0	215.119	113.348	1277.999	11334.80%	70.59%
70.0	179.177	99.838	1377.837	9983.84%	76.10%
75.0	146.256	85.063	1462.9	8506.30%	80.80%
80.0	117.040	70.451	1533.351	7045.07%	84.69%
85.0	92.952	57.060	1590.411	5705.99%	87.84%
90.0	73.687	45.627	1636.037	4562.69%	90.36%
95.0	58.051	36.071	1672.108	3607.06%	92.36%
100.0	42.592	27.347	1699.455	2734.71%	93.87%
105.0	32.516	20.097	1719.552	2009.68%	94.98%
110.0	30.612	16.500	1736.052	1650.04%	95.89%
115.0	26.982	14.583	1750.635	1458.31%	96.69%
120.0	23.809	12.347	1762.983	1234.74%	97.38%
125.0	20.992	10.356	1773.338	1035.56%	97.95%
130.0	18.403	8.566	1781.904	856.56%	98.42%
135.0	16.702	7.093	1788.997	709.34%	98.81%
140.0	15.687	5.997	1794.994	599.70%	99.14%
145.0	14.621	5.057	1800.051	505.65%	99.42%
150.0	12.894	4.052	1804.103	405.18%	99.65%
155.0	10.305	2.936	1807.039	293.59%	99.81%
160.0	7.209	1.837	1808.876	183.69%	99.91%
165.0	4.518	0.966	1809.842	96.64%	99.96%
170.0	2.818	0.435	1810.277	43.51%	99.99%
175.0	1.929	0.170	1810.447	16.98%	100.00%
180.0	1.269	0.038	1810.485	3.82%	100.00%

Equipment: GMS-3000  
Temperature( $^{\circ}\text{C}$ ): 25

Date:  
Humidity(%): 59%

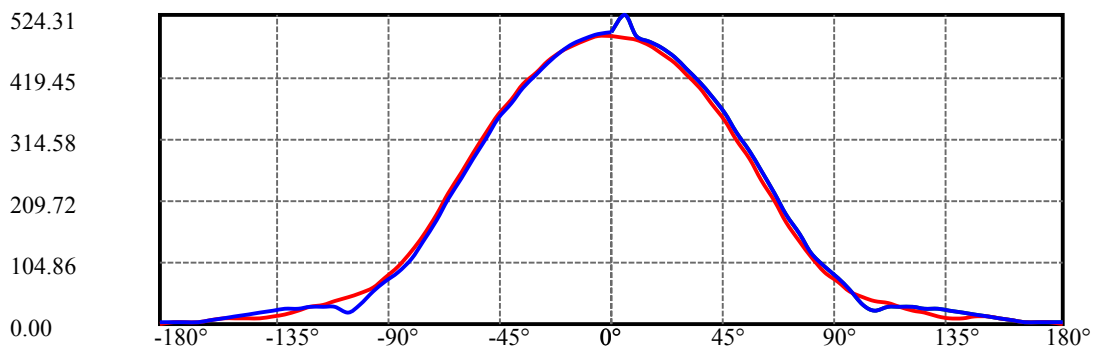
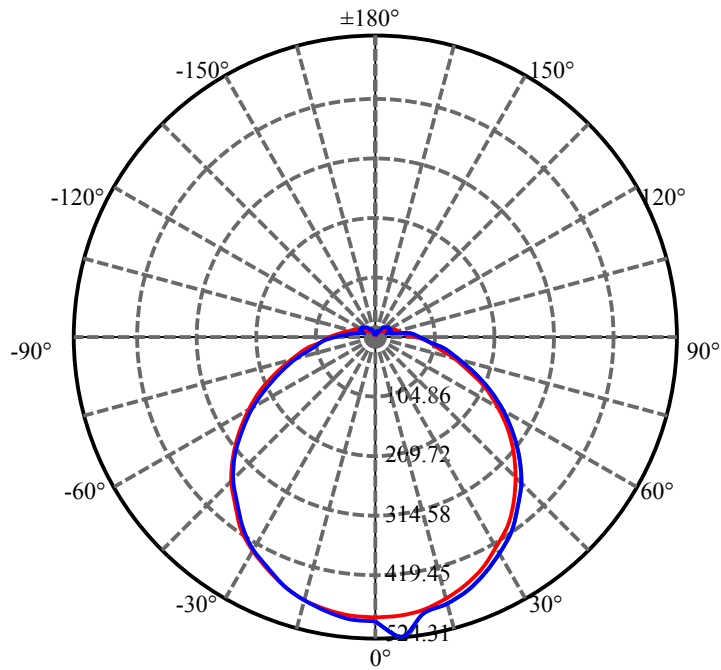
Operator: Zac

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	385.69	38568.61%	21.30%
0-40	638.31	63831.33%	35.26%
0-60	1164.65	116465.07%	64.33%
0-90	1636.04	163603.75%	90.36%
0-120	1762.98	176298.29%	97.38%
0-180	1810.49	181048.52%	100.00%
60-90	471.39	47138.68%	26.04%
90-120	126.95	12694.54%	7.01%
90-130	145.87	14586.66%	8.06%
90-150	168.07	16806.53%	9.28%
90-180	174.41	17440.95%	9.63%
0-74.15	1448.39	144838.80%	80.00%

ZONAL LUMEN SUMMARY

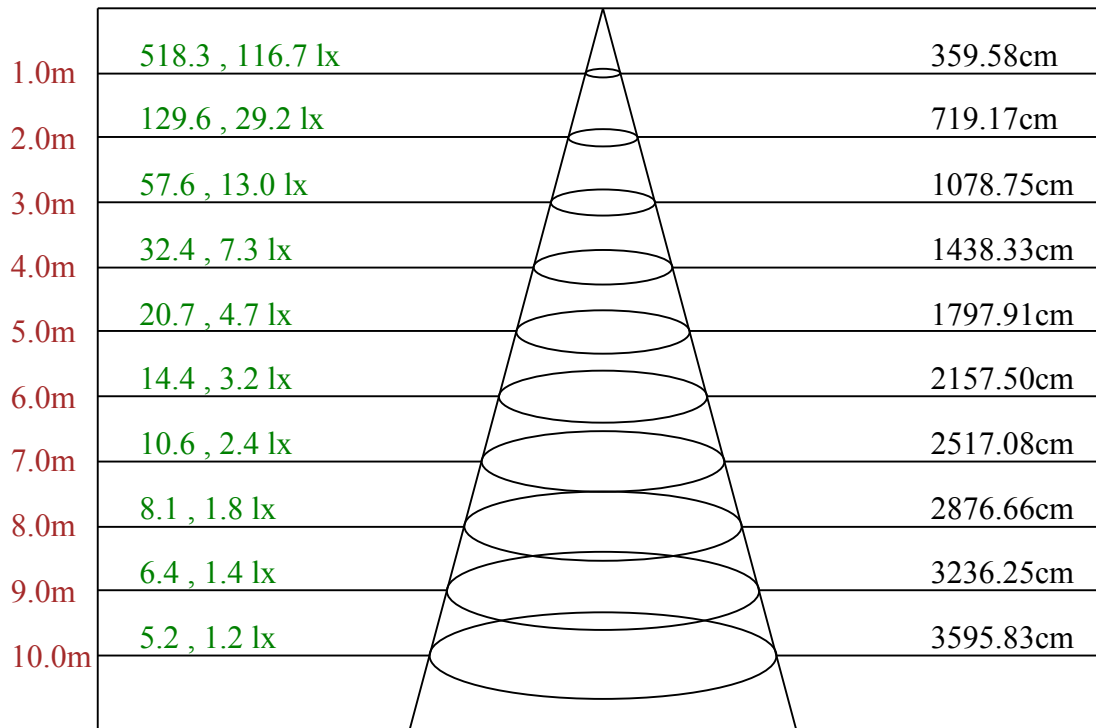
0-10	46.66
10-20	133.81
20-30	205.22
30-40	252.63
40-50	270.35
50-60	255.98
60-70	213.19
70-80	155.51
80-90	102.69
90-100	63.42
100-110	36.60
110-120	26.93
120-130	18.92
130-140	13.09
140-150	9.11
150-160	4.77
160-170	1.40
170-180	0.17



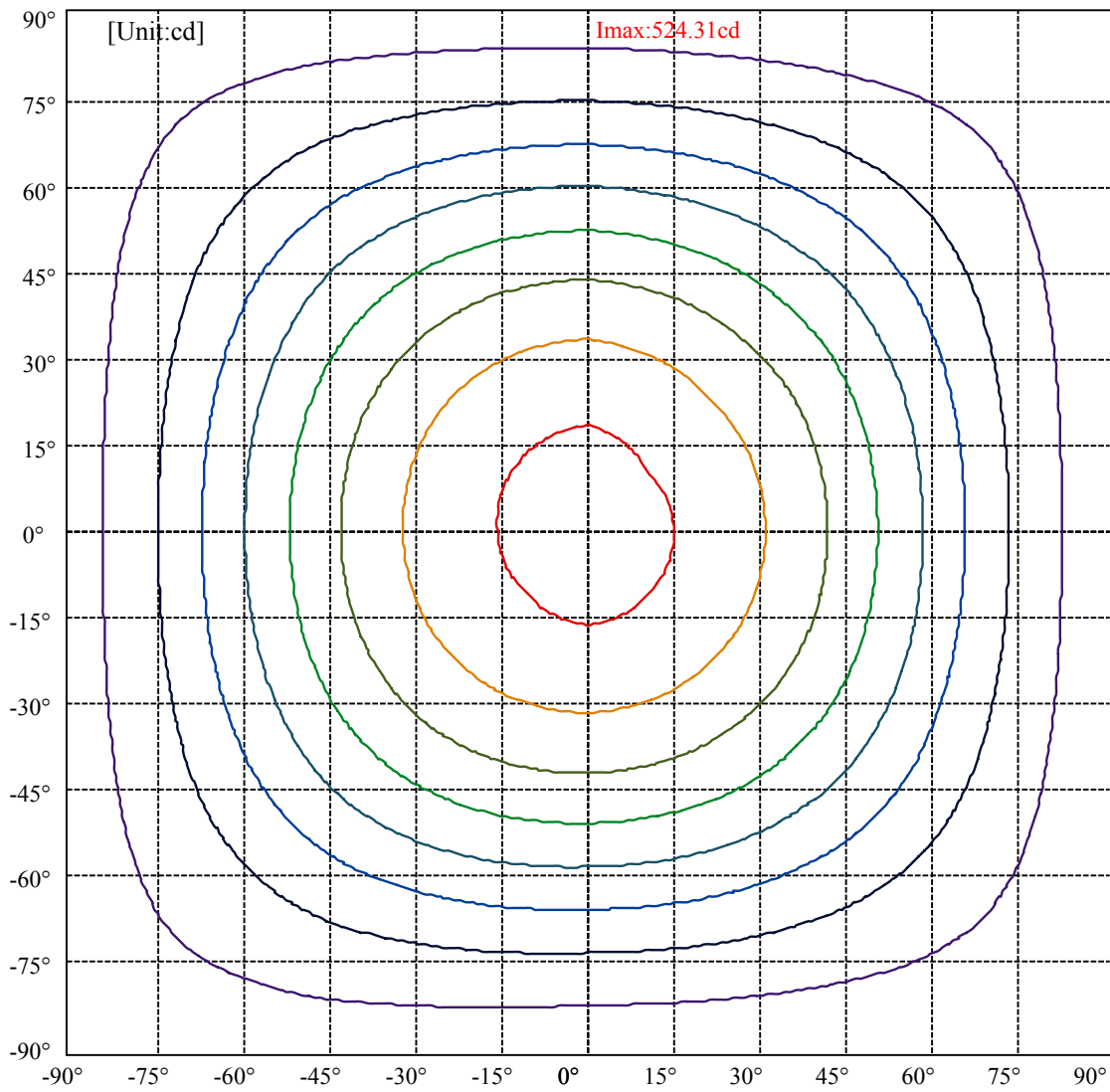
C90(Max): ———  
 C0/C180: ———  
 C90/C270: ———

Field angle(10%Imax):C0/180Left:101.7 Right:98.6  
 :C90/270Left:96.4 Right:97.0

Beam Angle(50%Imax):C0/180Left:61.6 Right:60.1  
 :C90/270Left:59.8 Right:61.6



Max , Ave      Beam angle of C90 plane 121.83



(10%I <sub>max</sub> ) 104.861	—
(20%I <sub>max</sub> ) 157.292	—
(30%I <sub>max</sub> ) 209.723	—
(40%I <sub>max</sub> ) 262.154	—
(50%I <sub>max</sub> ) 314.584	—
(60%I <sub>max</sub> ) 367.015	—
(70%I <sub>max</sub> ) 419.446	—
(80%I <sub>max</sub> ) 471.876	—

## Intensity data(cd)

<b>C/γ(°)</b>	<b>0.0</b>	<b>5.0</b>	<b>10.0</b>	<b>15.0</b>	<b>20.0</b>	<b>25.0</b>	<b>30.0</b>	<b>35.0</b>	<b>40.0</b>	
0.0	489.18	486.74	480.85	471.51	458.11	441.66	421.76	399.83	374.24	
45.0	488.16	485.93	480.24	470.90	458.52	442.07	421.96	399.83	375.26	
90.0	494.46	524.31	488.37	479.84	467.86	452.42	433.54	411.00	386.02	
135.0	491.01	489.79	485.32	476.39	464.61	449.58	430.49	408.56	383.79	
180.0	489.18	487.76	482.68	473.34	460.95	445.93	427.65	406.73	380.95	
225.0	488.16	486.34	481.06	471.71	458.92	443.49	424.81	403.08	379.32	
270.0	494.46	491.61	485.52	474.76	460.95	443.90	424.81	401.86	375.67	
315.0	491.01	488.37	481.87	471.71	457.91	441.05	420.95	398.41	372.42	
360.0	489.18	486.74	480.85	471.51	458.11	441.66	421.76	399.83	374.24	
<b>C/γ(°)</b>	<b>45.0</b>	<b>50.0</b>	<b>55.0</b>	<b>60.0</b>	<b>65.0</b>	<b>70.0</b>	<b>75.0</b>	<b>80.0</b>	<b>85.0</b>	
0.0	345.41	313.94	281.45	245.10	209.15	173.21	141.33	112.70	88.94	
45.0	346.43	314.95	281.45	245.91	210.98	174.84	142.35	113.72	90.36	
90.0	358.20	326.93	294.44	258.91	222.35	185.60	152.50	121.84	96.66	
135.0	355.97	325.10	293.43	258.50	221.34	186.41	152.30	122.24	97.67	
180.0	354.14	324.29	290.99	256.06	220.73	184.79	151.28	122.65	98.28	
225.0	351.70	321.45	288.96	255.25	218.50	182.55	150.67	120.82	96.66	
270.0	347.64	316.17	281.24	246.11	210.37	174.43	140.93	112.29	89.14	
315.0	344.60	312.92	279.21	243.27	207.53	171.59	138.69	110.06	85.90	
360.0	345.41	313.94	281.45	245.10	209.15	173.21	141.33	112.70	88.94	
<b>C/γ(°)</b>	<b>90.0</b>	<b>95.0</b>	<b>100.0</b>	<b>105.0</b>	<b>110.0</b>	<b>115.0</b>	<b>120.0</b>	<b>125.0</b>	<b>130.0</b>	
0.0	70.26	55.44	46.30	39.80	34.72	28.84	23.96	18.48	13.81	
45.0	71.07	55.84	41.83	31.88	25.59	21.93	19.49	17.87	17.87	
90.0	76.56	59.70	33.51	21.32	30.05	30.05	28.23	27.01	24.77	
135.0	77.16	60.51	46.50	36.15	29.44	24.77	22.13	19.49	16.45	
180.0	78.79	61.73	51.17	44.47	39.39	33.10	28.02	22.95	17.87	
225.0	76.96	61.12	47.52	35.74	30.05	25.59	22.13	19.29	16.45	
270.0	70.06	55.84	32.90	19.70	29.65	29.85	28.02	26.60	24.57	
315.0	68.64	54.22	41.02	31.07	25.99	21.73	18.48	16.25	15.43	
360.0	70.26	55.44	46.30	39.80	34.72	28.84	23.96	18.48	13.81	
<b>C/γ(°)</b>	<b>135.0</b>	<b>140.0</b>	<b>145.0</b>	<b>150.0</b>	<b>155.0</b>	<b>160.0</b>	<b>165.0</b>	<b>170.0</b>	<b>175.0</b>	
0.0	10.15	10.15	11.58	12.18	10.36	6.90	4.06	2.84	2.03	
45.0	18.07	18.28	16.65	13.40	10.15	6.90	4.47	2.84	2.03	
90.0	22.54	19.70	16.65	13.20	9.95	6.70	4.67	3.05	2.23	
135.0	15.84	15.23	15.43	13.81	10.97	7.51	4.67	2.84	1.83	
180.0	13.40	9.95	9.14	9.95	9.95	7.92	4.67	2.64	1.83	
225.0	15.64	15.64	15.23	14.21	11.37	8.12	4.87	2.64	1.42	
270.0	22.54	20.10	16.85	13.81	10.36	7.11	4.47	3.05	2.03	
315.0	15.43	16.45	15.43	12.59	9.34	6.50	4.26	2.64	2.03	
360.0	10.15	10.15	11.58	12.18	10.36	6.90	4.06	2.84	2.03	
<b>C/γ(°)</b>	<b>180.0</b>									
0.0	1.22									
45.0	1.02									
90.0	1.83									
135.0	1.02									
180.0	1.22									
225.0	1.02									
270.0	1.83									
315.0	1.02									
360.0	1.22									