

HITECHLED OPTOELECTRONICS CO., LTD.

Light Output Ratio:	100.0%
Luminaire Power:	20.46 W

I80 = 34.8 cd per klm.	I88 = 14.2 cd per klm.
I90 = 13.3 cd per klm.	I80/I88 = 2.455

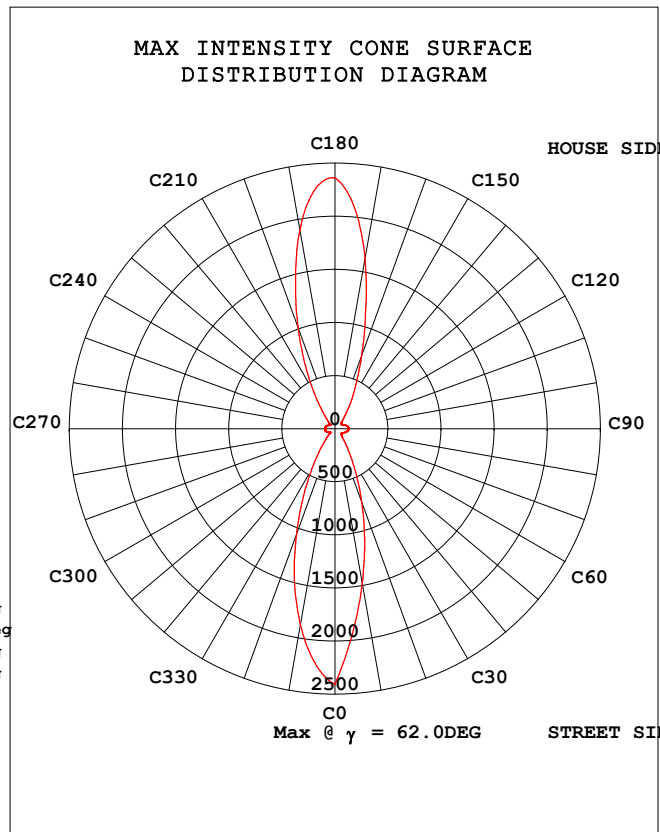
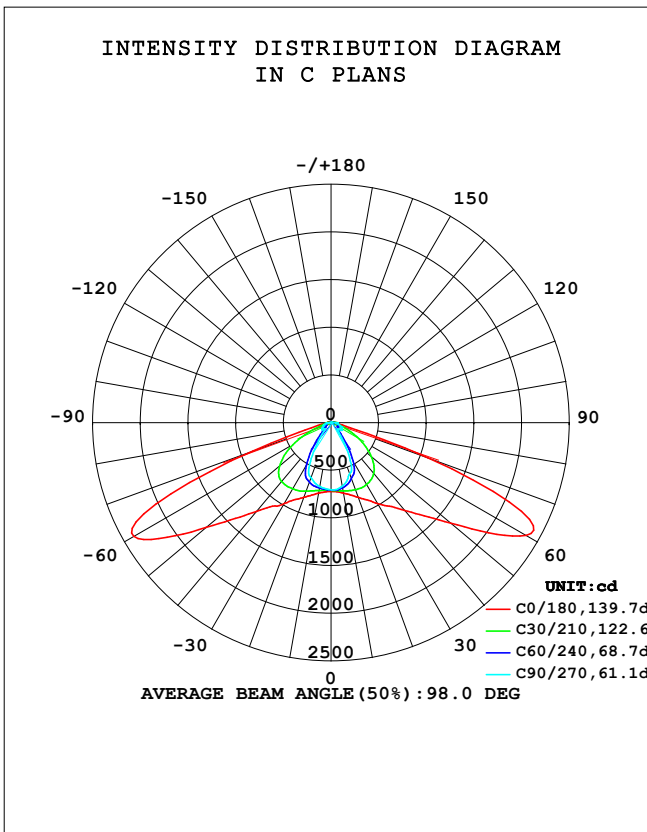
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: YU
Test Date: 2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 8.000m [K=1.0000]
Remarks: 20W LED, 45W SUNPOWER SOLAR PANEL

STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:31.00V I:0.6600A P:20.46W PF:1.000 Lamp Flux:2479.04x1 lm		
NAME: All-in-one Solar LED Street Light	TYPE: Outdoor light	WEIGHT:
SPEC.: 20W LED light,45W Sunpower solar panel	DIM.:	SERIAL No.:
MFR.: Hitechled Optoelectronics Co.,Ltd	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 121.17 lm/W			
MODEL	HT-SS-4520	I _{max} (cd)	2408	η street_up (%)	0.6
NOMINAL POWER (W)	20	LOR (%)	100.0	η street_down (%)	51.4
RATED VOLTAGE (V)		TOTAL FLUX (lm)	2479	η house_up (%)	0.5
NOMINAL FLUX (lm)	2479.04	MAXIMUM @ (C, γ)	0,62.0	η house_down (%)	47.5
LAMPS INSIDE	1	η up (%)	1.1	76 FLASHAREA (m2)	0.00100
TEST VOLTAGE (V)		η down (%)	98.9	SLI	17.158



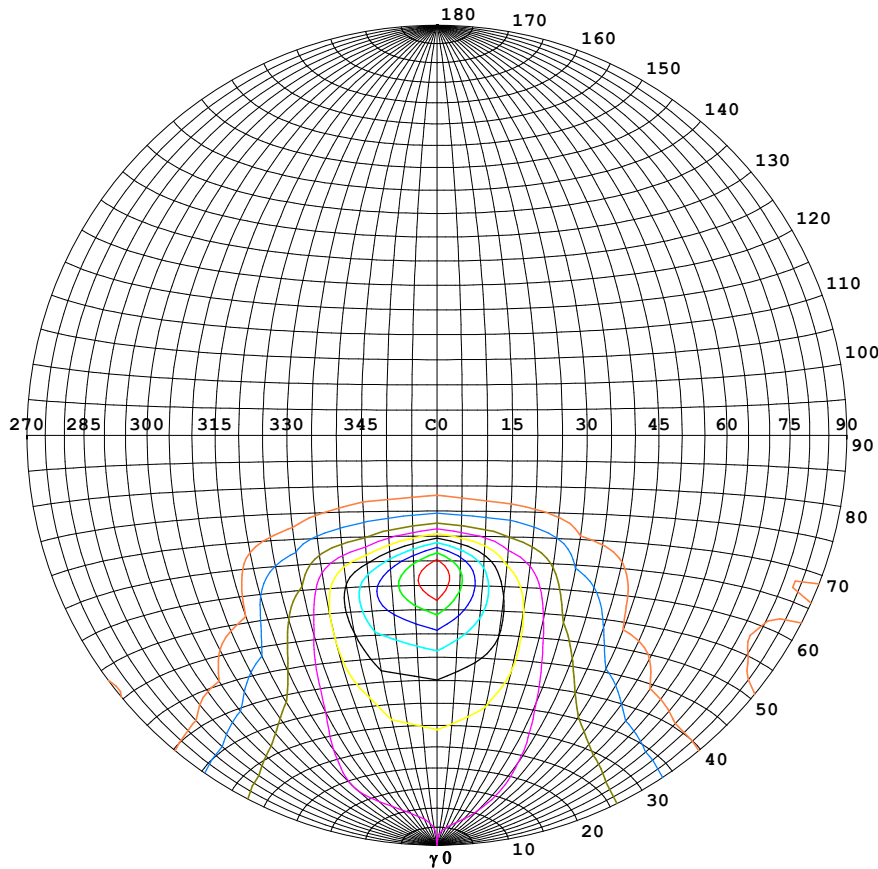
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:YU
 Test Date:2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: 20W LED,45W SUNPOWER SOLAR PANEL

Note: SLI:Specific Luminaire Index

STREETLIGHT ISOCANDELA DIAGRAM

Test:U:31.00V I:0.6600A P:20.46W PF:1.000 Lamp Flux:2479.04x1 lm		
NAME: All-in-one Solar LED Street Light	TYPE: Outdoor light	WEIGHT:
SPEC.: 20W LED light,45W Sunpower solar panel	DIM.:	SERIAL No.:
MFR.: Hitechled Optoelectronics Co.,Ltd	SUR.:	PROTECTION ANGLE:



Classification:

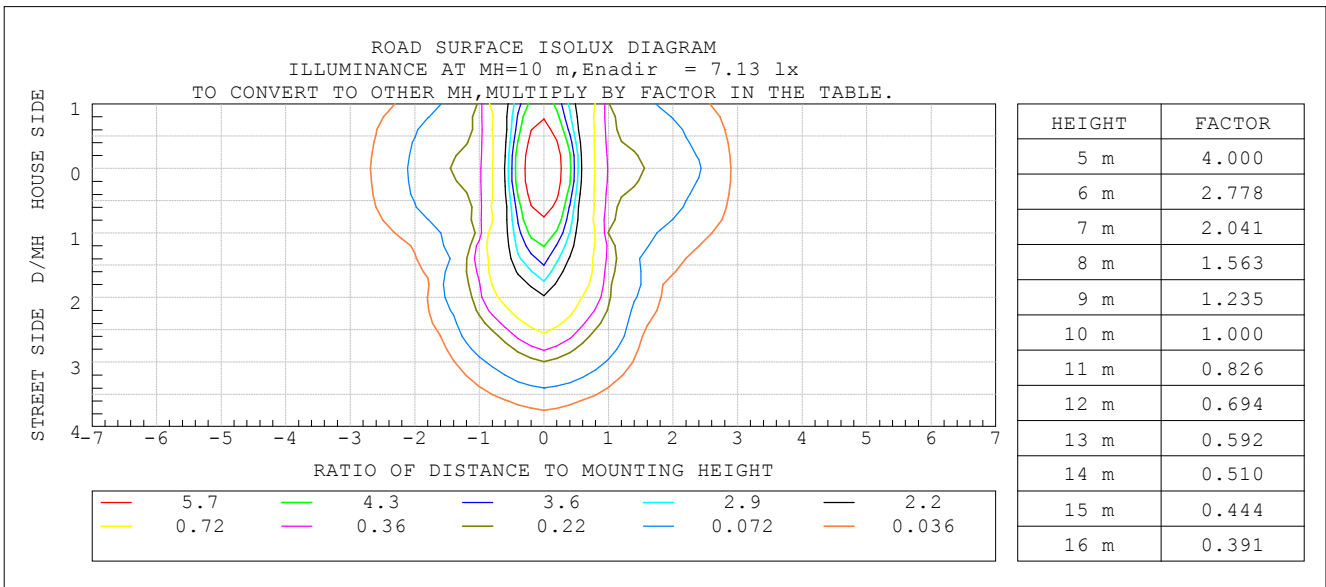
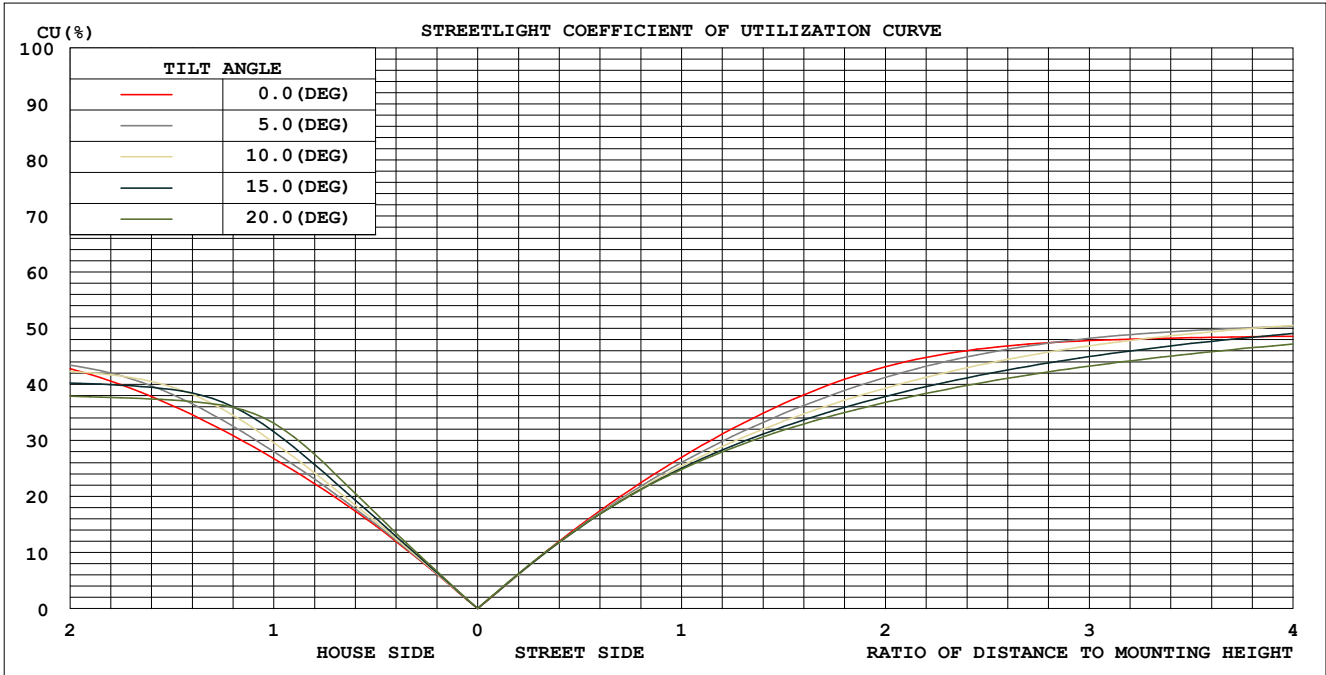
IES:Type III - Short
 CIE:Broad - Intermediate
 IES:Semi cut-off
 CIE:Semi-cut-off
 Max.At80:41.36cd/klm
 Max.At90:25.53cd/klm
 Max.80-90:41.36cd/klm

ISOCANDELA DIAGRAM	
UNIT	cd
I _{max} =100%	2408
— 90%	2167
— 80%	1926
— 70%	1685
— 60%	1445
— 50%	1204
— 40%	963
— 30%	722
— 20%	482
— 10%	241
— 5%	120

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:YU
 Test Date:2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: 20W LED,45W SUNPOWER SOLAR PANEL

COEFFICIENT OF UTILIZATION CURVE
AND ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: YU
Test Date: 2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 8.000m [K=1.0000]
Remarks: 20W LED, 45W SUNPOWER SOLAR PANEL

ZONAL FLUX DIAGRAM

Test:U:31.00V I:0.6600A P:20.46W PF:1.000 Lamp Flux:2479.04x1 lm		
NAME: All-in-one Solar LED Street Light	TYPE: Outdoor light	WEIGHT:
SPEC.: 20W LED light,45W Sunpower solar panel	DIM.:	SERIAL No.:
MFR.: Hitechled Optoelectronics Co.,Ltd	SUR.:	PROTECTION ANGLE:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	749.7	710.2	679.3	704.0	752.4	708.6	682.4	706.1	0- 10	67.70	67.70	2.73,2.73
20	834.6	685.3	571.5	681.4	835.0	715.6	616.7	721.7	10- 20	201.2	268.9	10.8,10.8
30	982.3	588.9	350.1	588.7	979.2	653.3	395.3	654.6	20- 30	317.5	586.4	23.7,23.7
40	1201	367.9	116.9	371.1	1215	445.7	115.2	445.4	30- 40	366.4	952.7	38.4,38.4
50	1641	160.2	114.2	167.2	1712	191.9	119.3	204.7	40- 50	408.3	1361	54.9,54.9
60	2366	93.15	132.7	94.47	2389	91.65	108.3	98.51	50- 60	493.3	1854	74.8,74.8
70	1085	73.36	108.1	73.51	877.7	62.50	84.16	62.74	60- 70	420.8	2275	91.8,91.8
80	86.24	63.57	56.86	62.07	86.01	45.83	31.18	52.26	70- 80	124.6	2400	96.8,96.8
90	32.92	43.69	7.042	43.64	36.59	21.76	5.713	22.32	80- 90	51.23	2451	98.9,98.9
100	29.08	20.09	6.274	15.62	25.20	9.919	5.879	15.43	90-100	27.15	2478	100,100
110	0	0	0	0	0	0	0	0	100-110	0.8878	2479	100,100
120	0	0	0	0	0	0	0	0	110-120	0	2479	100,100
130	0	0	0	0	0	0	0	0	120-130	0	2479	100,100
140	0	0	0	0	0	0	0	0	130-140	0	2479	100,100
150	0	0	0	0	0	0	0	0	140-150	0	2479	100,100
160	0	0	0	0	0	0	0	0	150-160	0	2479	100,100
170	0	0	0	0	0	0	0	0	160-170	0	2479	100,100
180	0	0	0	0	0	0	0	0	170-180	0	2479	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:YU
Test Date:2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
Humidity:65.0%
Test Distance:8.000m [K=1.0000]
Remarks: 20W LED,45W SUNPOWER SOLAR PANEL

ISOCANDELA DIAGRAM

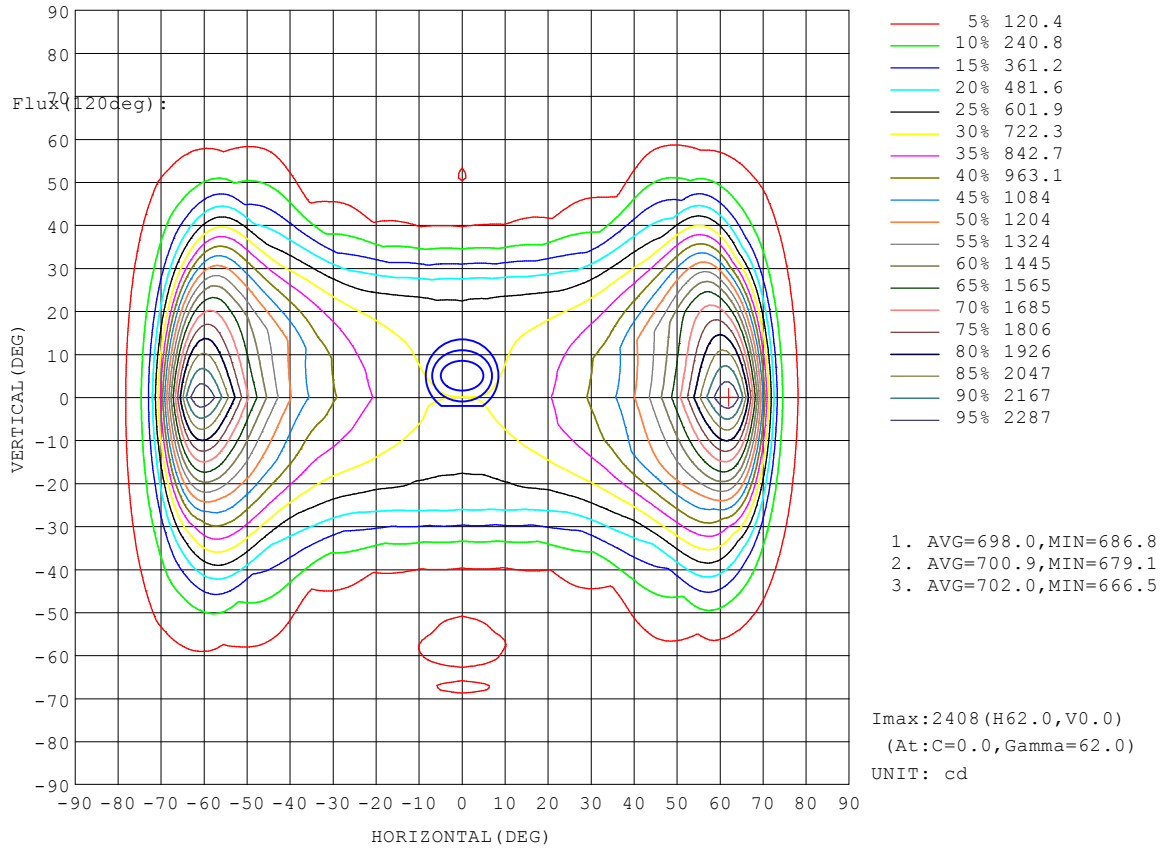
Test:U:31.00V I:0.6600A P:20.46W PF:1.000 Lamp Flux:2479.04x1 lm		
NAME: All-in-one Solar LED Street Light	TYPE: Outdoor light	WEIGHT:
SPEC.: 20W LED light,45W Sunpower solar panel	DIM.:	SERIAL No.:
MFR.: Hitechled Optoelectronics Co.,Ltd	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

1148.4 lm
 %lum = 46.3%
 %lamp = 46.3%

Conical surface Flux(20deg):

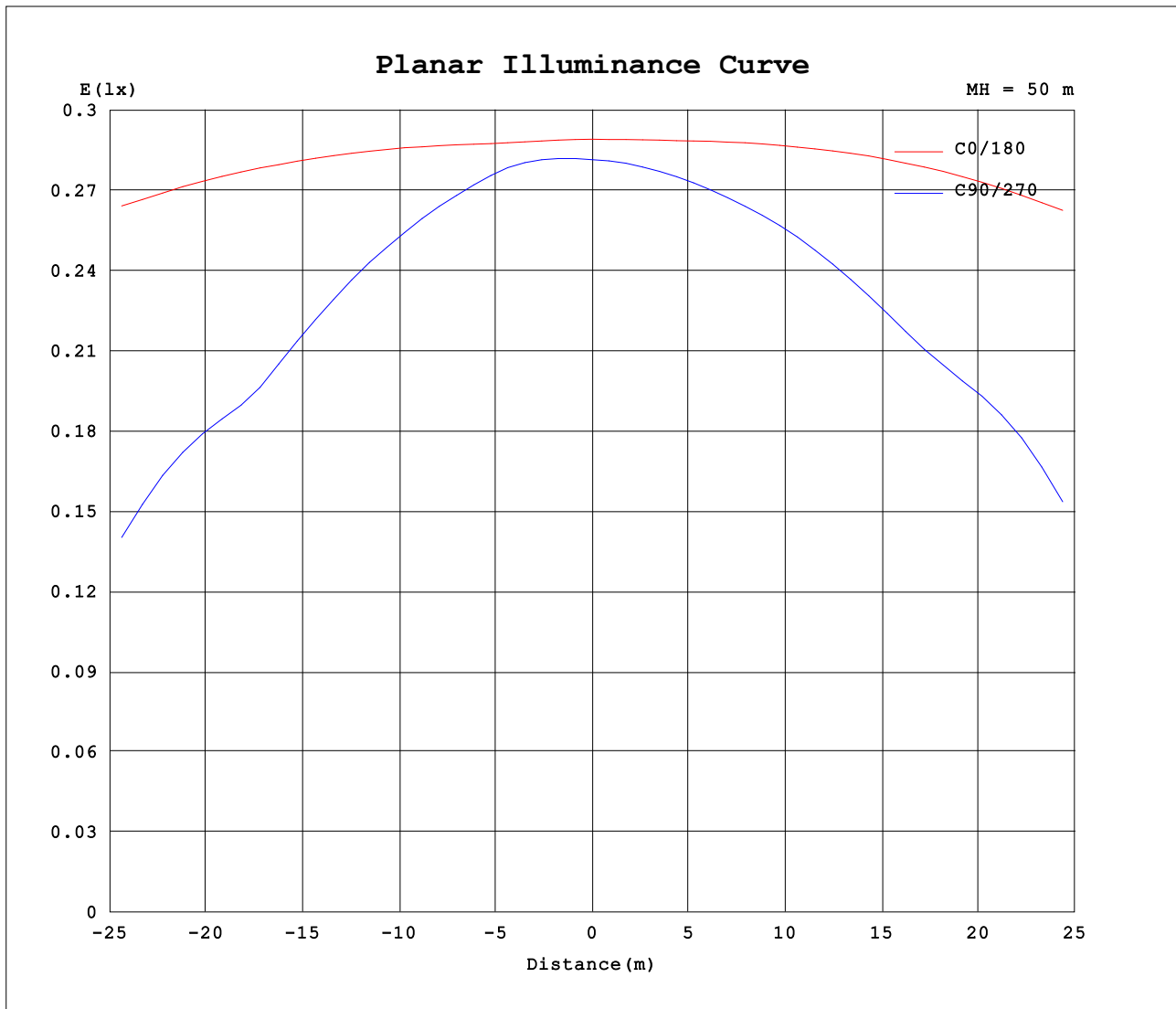
1854.3 lm
 %lum = 74.8%
 %lamp = 74.8%



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:YU
 Test Date:2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: 20W LED,45W SUNPOWER SOLAR PANEL

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: YU
Test Date: 2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.287
Humidity: 65.0%
Test Distance: 8.000m [K=1.0000]
Remarks: 20W LED, 45W SUNPOWER SOLAR PANEL

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:31.00V I:0.6600A P:20.46W PF:1.000 Lamp Flux:2479.04x1 lm		
NAME: All-in-one Solar LED Street Light	TYPE: Outdoor light	WEIGHT:
SPEC.: 20W LED light,45W Sunpower solar panel	DIM.:	SERIAL No.:
MFR.: Hitechled Optoelectronics Co.,Ltd	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270
0	723	717	711	709	709	704	704	704	700	701	703	707	723	717	711	709	709	704	704
5	728	723	716	713	711	705	704	705	702	705	709	712	730	722	712	707	703	696	696
10	750	742	727	710	696	682	679	684	690	704	720	730	752	740	723	709	697	684	682
15	785	777	740	704	671	645	636	649	667	699	732	761	788	770	741	715	688	662	657
20	835	814	750	685	626	583	572	586	623	681	741	794	835	811	766	716	666	625	617
25	896	860	756	646	579	530	512	535	578	643	744	831	891	860	790	697	628	573	559
30	982	911	749	589	465	377	350	384	472	589	730	872	979	933	803	653	523	417	395
35	1069	970	731	490	308	221	196	227	320	493	700	913	1071	1024	812	566	364	249	225
40	1201	1062	699	368	177	127	117	130	188	371	663	984	1215	1145	808	446	212	129	115
45	1384	1150	637	254	112	97.3	96.7	96.5	118	259	608	1085	1423	1268	778	311	116	91.2	92.0
50	1641	1211	551	160	93.8	96.2	114	94.2	92.2	167	538	1175	1712	1387	704	192	87.7	87.1	119
55	2016	1228	448	109	85.5	109	139	106	84.8	115	459	1231	2100	1506	598	118	75.5	101	120
60	2366	1157	338	93.2	81.2	115	133	116	79.0	94.5	364	1184	2389	1523	464	91.6	69.4	98.6	108
65	2205	913	227	81.9	80.5	108	114	106	77.6	83.3	249	932	2032	1154	304	74.9	64.5	85.6	91.6
70	1085	475	130	73.4	78.5	105	108	102	74.8	73.5	149	491	878	518	159	62.5	61.1	81.6	84.2
75	210	158	79.5	63.6	82.3	86.1	86.7	84.2	77.6	63.5	95.6	201	215	189	85.9	52.2	66.0	71.9	72.1
80	86.2	86.4	70.7	63.6	58.7	68.9	56.9	68.9	58.0	62.1	72.9	103	86.0	93.1	63.6	45.8	36.4	44.3	31.2
85	39.8	70.1	63.6	52.6	47.6	45.0	80.0	45.8	46.0	53.0	68.0	79.1	43.6	66.1	44.9	32.6	25.8	18.5	25.9
90	32.9	60.2	55.6	43.7	31.5	12.5	7.04	14.4	33.8	43.6	55.2	57.8	36.6	63.3	44.0	21.8	10.2	5.66	5.71
95	30.4	43.2	37.3	32.9	18.4	7.57	6.21	6.77	16.0	32.2	39.9	47.8	34.0	39.4	31.2	16.9	7.94	5.63	5.61
100	29.1	32.6	28.7	20.1	10.8	7.31	6.27	6.72	8.36	15.6	22.5	26.5	25.2	23.2	19.4	9.92	7.03	5.92	5.88
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:YU
 Test Date:2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: 20W LED,45W SUNPOWER SOLAR PANEL

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:31.00V I:0.6600A P:20.46W PF:1.000 Lamp Flux:2479.04x1 lm		
NAME: All-in-one Solar LED Street Light	TYPE: Outdoor light	WEIGHT:
SPEC.: 20W LED light,45W Sunpower solar panel	DIM.:	SERIAL No.:
MFR.: Hitechled Optoelectronics Co.,Ltd	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd

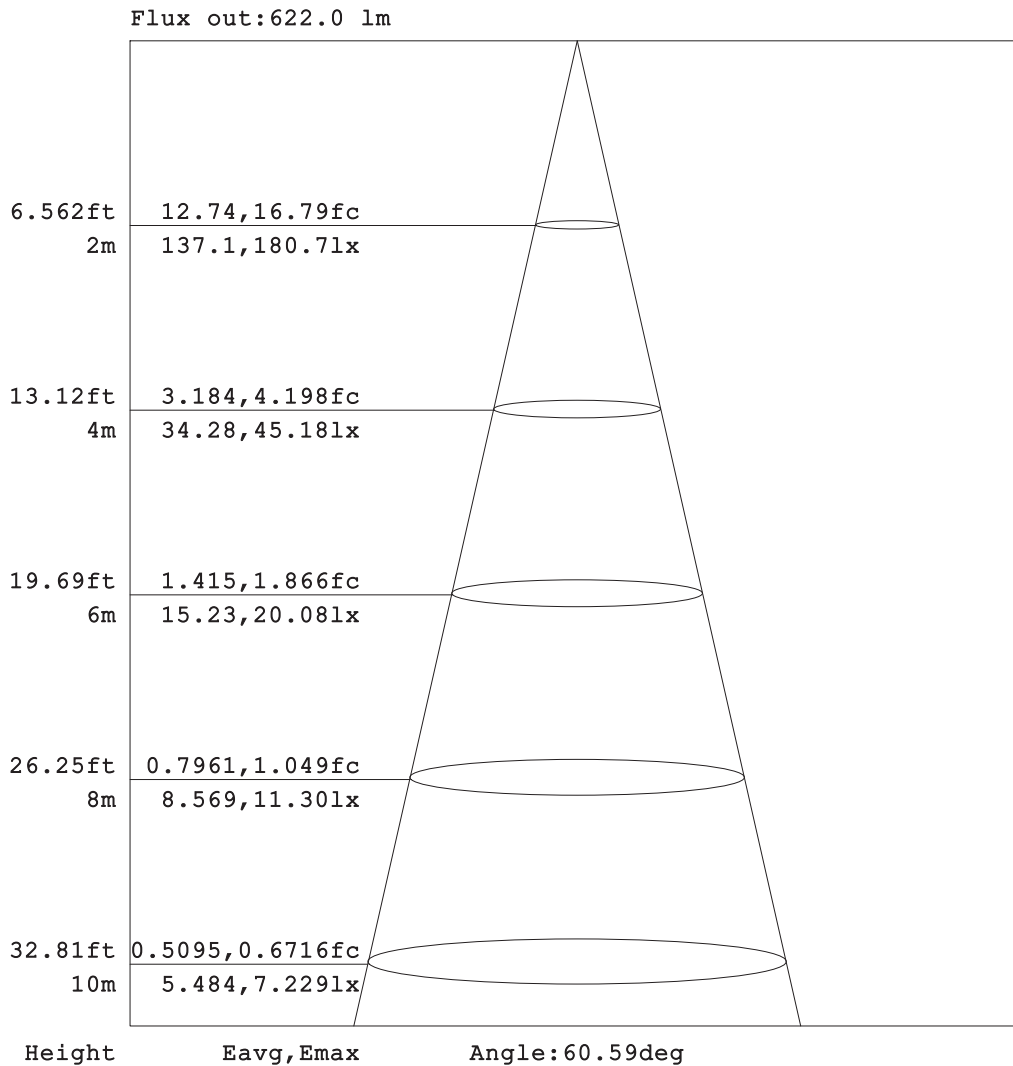
C (DEG) γ (DEG)	285	300	315	330	345														
0	704	700	701	703	707														
5	697	696	701	707	713														
10	687	692	706	721	735														
15	668	689	718	744	768														
20	632	670	722	771	812														
25	579	631	700	794	866														
30	426	530	655	800	938														
35	256	376	564	802	1008														
40	135	225	445	798	1134														
45	94.0	128	317	783	1273														
50	88.4	90.0	205	734	1423														
55	98.7	77.1	129	642	1578														
60	98.7	69.3	98.5	503	1586														
65	89.5	63.7	78.0	326	1151														
70	82.5	58.7	62.7	166	458														
75	73.5	66.0	53.9	88.0	158														
80	49.9	38.0	52.3	69.0	85.1														
85	19.7	27.0	31.4	44.3	58.0														
90	6.56	12.8	22.3	45.0	62.1														
95	6.57	11.2	24.0	32.9	37.9														
100	6.84	8.87	15.4	25.7	27.2														
105	0.00	0.00	0.00	0.00	0.00														
110	0.00	0.00	0.00	0.00	0.00														
115	0.00	0.00	0.00	0.00	0.00														
120	0.00	0.00	0.00	0.00	0.00														
125	0.00	0.00	0.00	0.00	0.00														
130	0.00	0.00	0.00	0.00	0.00														
135	0.00	0.00	0.00	0.00	0.00														
140	0.00	0.00	0.00	0.00	0.00														
145	0.00	0.00	0.00	0.00	0.00														
150	0.00	0.00	0.00	0.00	0.00														
155	0.00	0.00	0.00	0.00	0.00														
160	0.00	0.00	0.00	0.00	0.00														
165	0.00	0.00	0.00	0.00	0.00														
170	0.00	0.00	0.00	0.00	0.00														
175	0.00	0.00	0.00	0.00	0.00														
180	0.00	0.00	0.00	0.00	0.00														

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:YU
 Test Date:2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: 20W LED,45W SUNPOWER SOLAR PANEL

AAI Figure

Test:U:31.00V I:0.6600A P:20.46W PF:1.000 Lamp Flux:2479.04x1 lm		
NAME: All-in-one Solar LED Street Light	TYPE: Outdoor light	WEIGHT:
SPEC.: 20W LED light,45W Sunpower solar panel	DIM.:	SERIAL No.:
MFR.: Hitechled Optoelectronics Co.,Ltd	SUR.:	PROTECTION ANGLE:



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: YU
 Test Date: 2016-03-02

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity: 65.0%
 Test Distance: 8.000m [K=1.0000]
 Remarks: 20W LED, 45W SUNPOWER SOLAR PANEL