



## Certificate of Conformity

**Certificate No.** : ECT2017E03074-Y3  
**Applicant** : SC "LED MARKET" SRL  
: Moldova, mun.Chisinau, bd. Moscova 14/1, ap.143  
**Manufacturer** : SC "LED MARKET" SRL  
: Moldova, mun.Chisinau, bd. Moscova 14/1, ap.143  
**Product** : LED Street light  
**Trade Name** : GRUNLED  
**Model** : Street LEAF range: 30W,50W,60W,80W,100W,120W,150W  
Street FUSION range: 19W, 34W,36W, 65W,42W, 51W,55W, 62W,70W,  
90W,104W, 135W, 125W, 150W, 180W, 165W  
**Test Standards** : EN 55015:2013+A1:2015  
EN 61547:2009  
EN 61000-3-2:2014  
EN 61000-3-3:2013

The EUT described above has been tested by us with the listed standards and found in compliance with the council EMC directive 2014/30/EU. It is possible to use CE marking to demonstrate the compliance with this EMC directive.



Date : Mar .28 .2017

The results in this report are applicable only to the equipment tested. This report shall not be re-produced except in full without the written approval of Shenzhen ECT Testing Technology Co., Ltd

**Shenzhen ECT Testing Technology Co., Ltd**

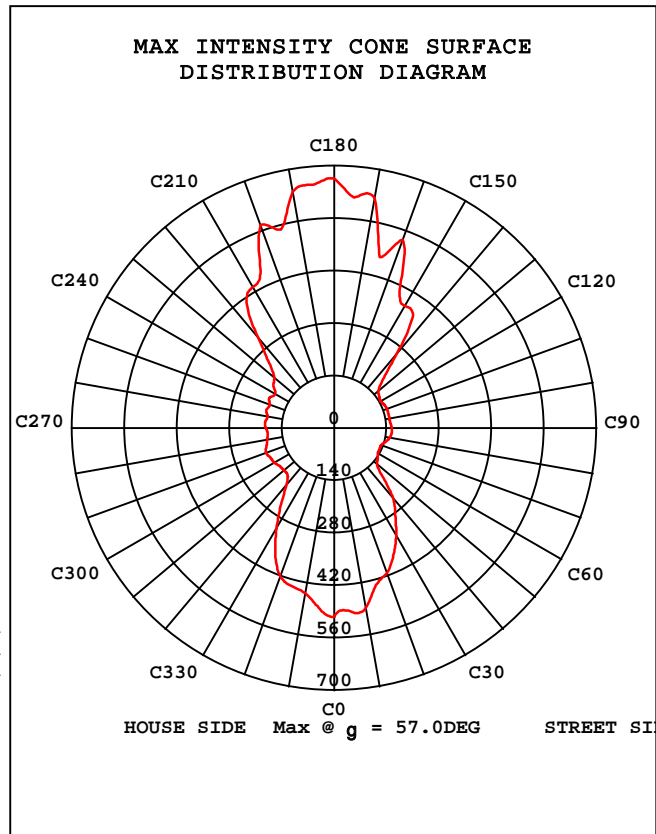
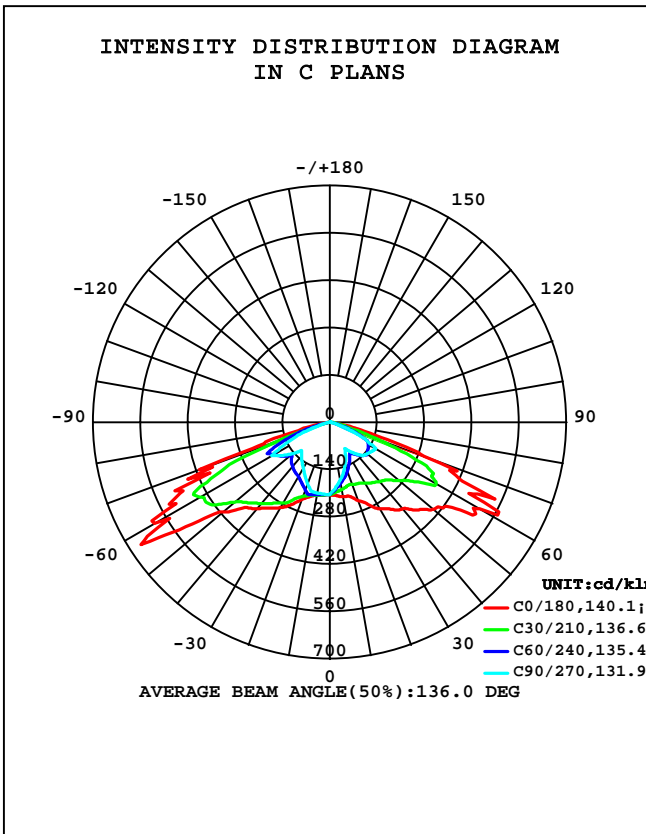
Room 1106,Era Innovation Center, Xixiang gushu second road,Baoan district, Shenzhen city, China

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STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:221.5V I:0.1300A P:28.20W PF:0.9740 Lamp Flux:4372.96x1 lm		
NAME: LEAF RANGE	TYPE:30W	WEIGHT:1.5
DIM.:	SPEC.:6000K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 156.55 lm/W			
MODEL LEAF	RANGE 30W, 6000K	Imax(cd/klm)	666.0	h street_up(%)	0.0
NOMINAL POWER(W)	30	LOR(%)	101.0	h street_down(%)	47.0
RATED VOLTAGE(V)	222	TOTAL FLUX(lm/klm)	1010	h house_up(%)	0.0
NOMINAL FLUX(lm)	4372.96	MAXIMUM @(C,g )	180,57.0	h house_down(%)	54.0
LAMPS INSIDE	1	h up(%)	0.0	76 FLASHAREA(m2)	
TEST VOLTAGE(V)	221.5	h down(%)	101.0	SLI	



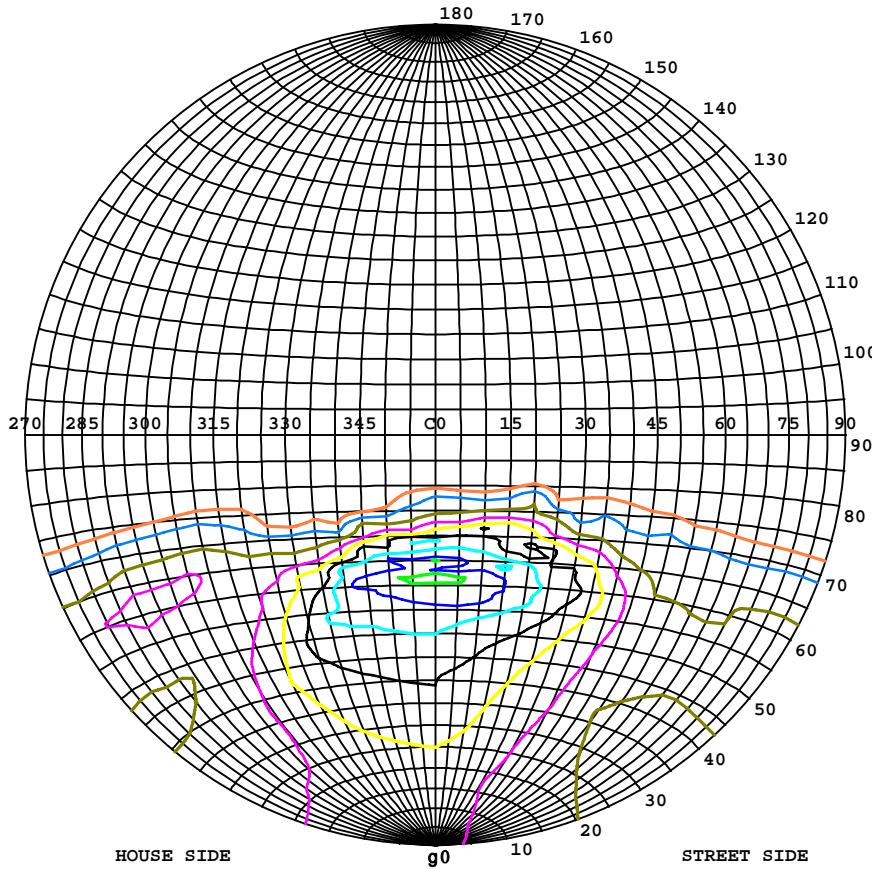
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Operators:ROMAN  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

Note: SLI:Specific Luminaire Index  
 C:\Users\LAB\Desktop\LED\HIGH BAY\STREET\LEAF\STREET LEAF 30W 6000K.GOS

**STREETLIGHT ISOCANDELA DIAGRAM**

Test:U:221.5V I:0.1300A P:28.20W PF:0.9740 Lamp Flux:4372.96x1 lm		
NAME: LEAF RANGE	TYPE:30W	WEIGHT:1.5
DIM.:	SPEC.:6000K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:



**Classification:**

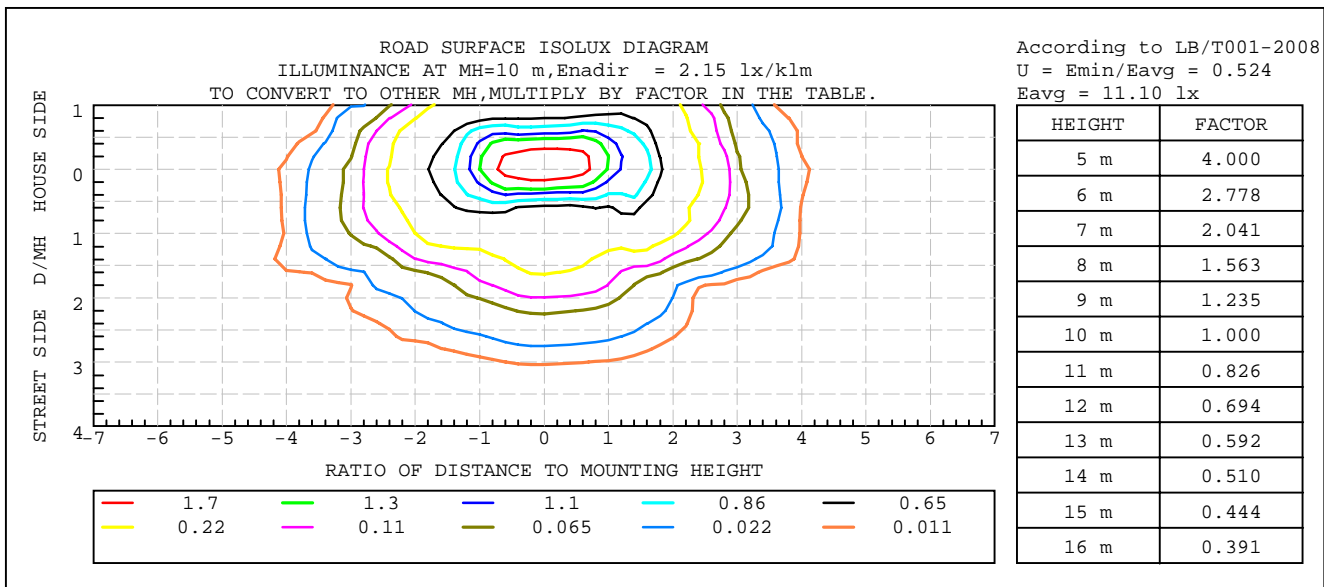
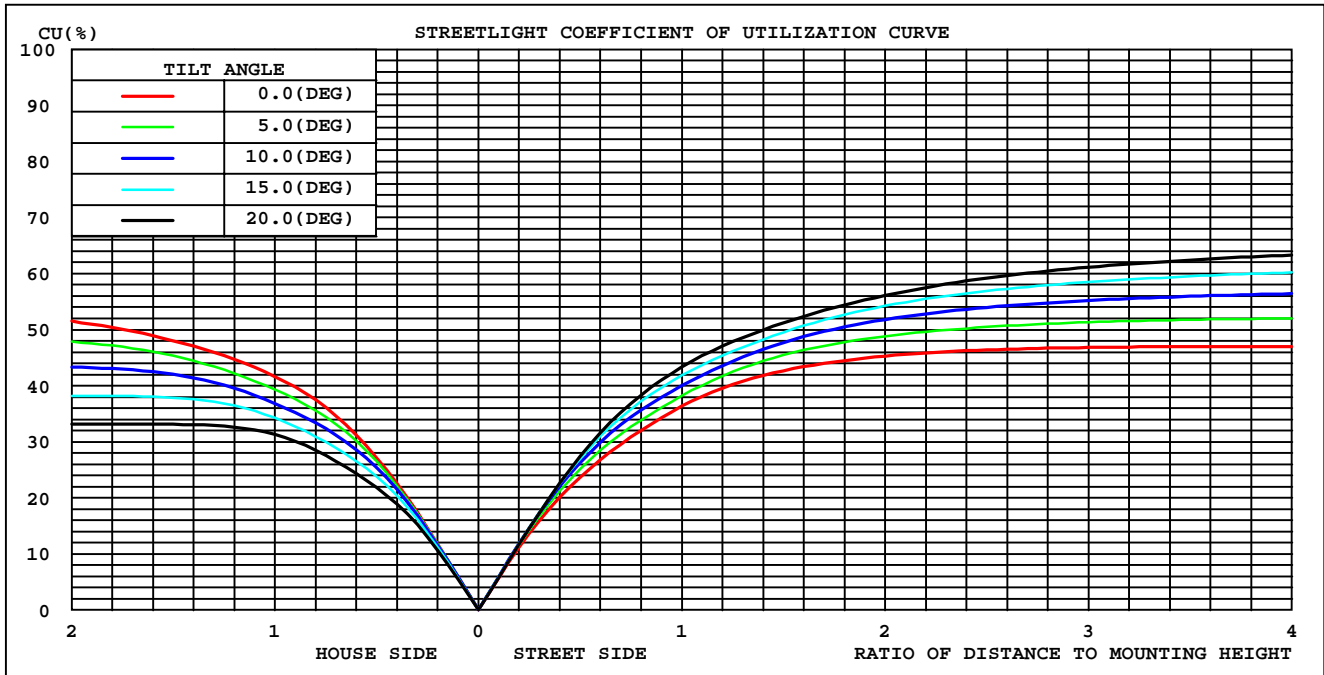
IES:Type II - Short  
 CIE:Narrow - Short  
 IES:Cut-off  
 CIE:Semi-cut-off  
 Max.At80:42.55cd/klm  
 Max.At90:1.022cd/klm  
 Max.80-90:42.55cd/klm  
 NRB 5101:Semi limited[13.7%]

ISOCANDELA DIAGRAM	
UNIT	cd/klm
I <sub>max</sub> =100%	666
90%	599
80%	533
70%	466
60%	400
50%	333
40%	266
30%	200
20%	133
10%	67
5%	33

C Range: 0 - 360DEG  
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 Temperature:22DEG  
 Operators:ROMAN  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

COEFFICIENT OF UTILIZATION CURVE AND ISOLUX DIAGRAM



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 22DEG  
 Operators: ROMAN  
 Test Date: 2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity: 65.0%  
 Test Distance: 8.000m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM

Test:U:221.5V I:0.1300A P:28.20W PF:0.9740 Lamp Flux:4372.96x1 lm		
NAME: LEAF RANGE	TYPE:30W	WEIGHT:1.5
DIM.:	SPEC.:6000K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

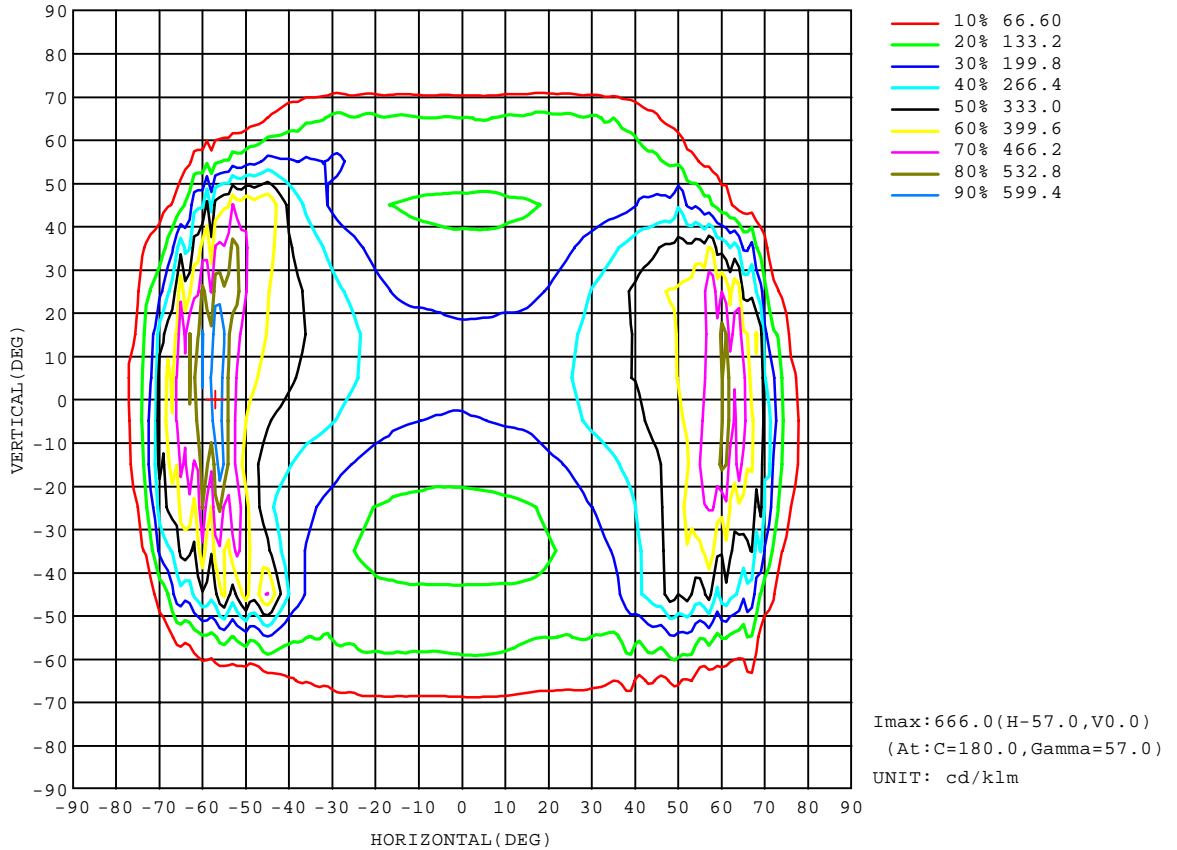
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	\$lum,lamp
5	218.3	203.8	195.7	201.8	217.1	215.8	214.1	216.5	0- 5	5.060	5.060	0.50,0.51
10	224.0	193.1	176.5	189.4	219.8	220.1	213.2	218.3	5- 10	14.88	19.94	1.97,1.99
15	227.5	183.1	157.2	178.3	228.4	222.7	212.3	221.1	10- 15	24.23	44.17	4.38,4.42
20	247.2	172.9	134.8	167.5	243.6	226.7	194.1	221.2	15- 20	33.11	77.28	7.66,7.73
25	267.7	164.0	112.5	159.0	269.2	224.4	175.8	217.2	20- 25	41.50	118.8	11.8,11.9
30	296.5	157.8	90.16	147.1	292.0	228.5	157.5	216.0	25- 30	49.81	168.6	16.7,16.9
35	314.2	152.6	106.8	137.9	310.5	242.3	144.6	221.2	30- 35	58.55	227.1	22.5,22.7
40	334.2	159.0	123.4	135.7	334.5	250.5	131.6	229.7	35- 40	69.01	296.2	29.3,29.6
45	368.2	173.4	140.1	157.3	358.0	245.0	118.7	224.8	40- 45	80.51	376.7	37.3,37.7
50	400.4	178.7	146.0	175.0	412.4	245.8	145.5	205.4	45- 50	93.70	470.4	46.6,47
55	441.8	184.1	151.8	190.0	569.5	247.5	172.3	174.1	50- 55	111.9	582.3	57.7,58.2
60	512.9	181.8	157.7	174.6	599.0	233.6	199.1	178.4	55- 60	135.6	717.9	71.1,71.8
65	540.4	133.6	106.0	127.7	479.1	188.7	134.7	167.4	60- 65	134.0	851.9	84.4,85.2
70	296.5	72.90	54.23	62.90	411.1	107.0	70.21	109.4	65- 70	98.43	950.3	94.1,95
75	106.5	42.75	2.489	28.29	96.91	46.25	5.743	47.78	70- 75	47.16	997.5	98.8,99.7
80	22.14	1.813	0	2.542	6.728	2.594	0	2.550	75- 80	10.83	1008	99.9,101
85	2.794	0	0	0	2.054	0	0	0	80- 85	1.099	1009	100,101
90	1.022	0	0	0	0.9926	0	0	0	85- 90	0.1610	1010	100,101
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd/klm									UNIT:lm/klm		

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Operators:ROMAN  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

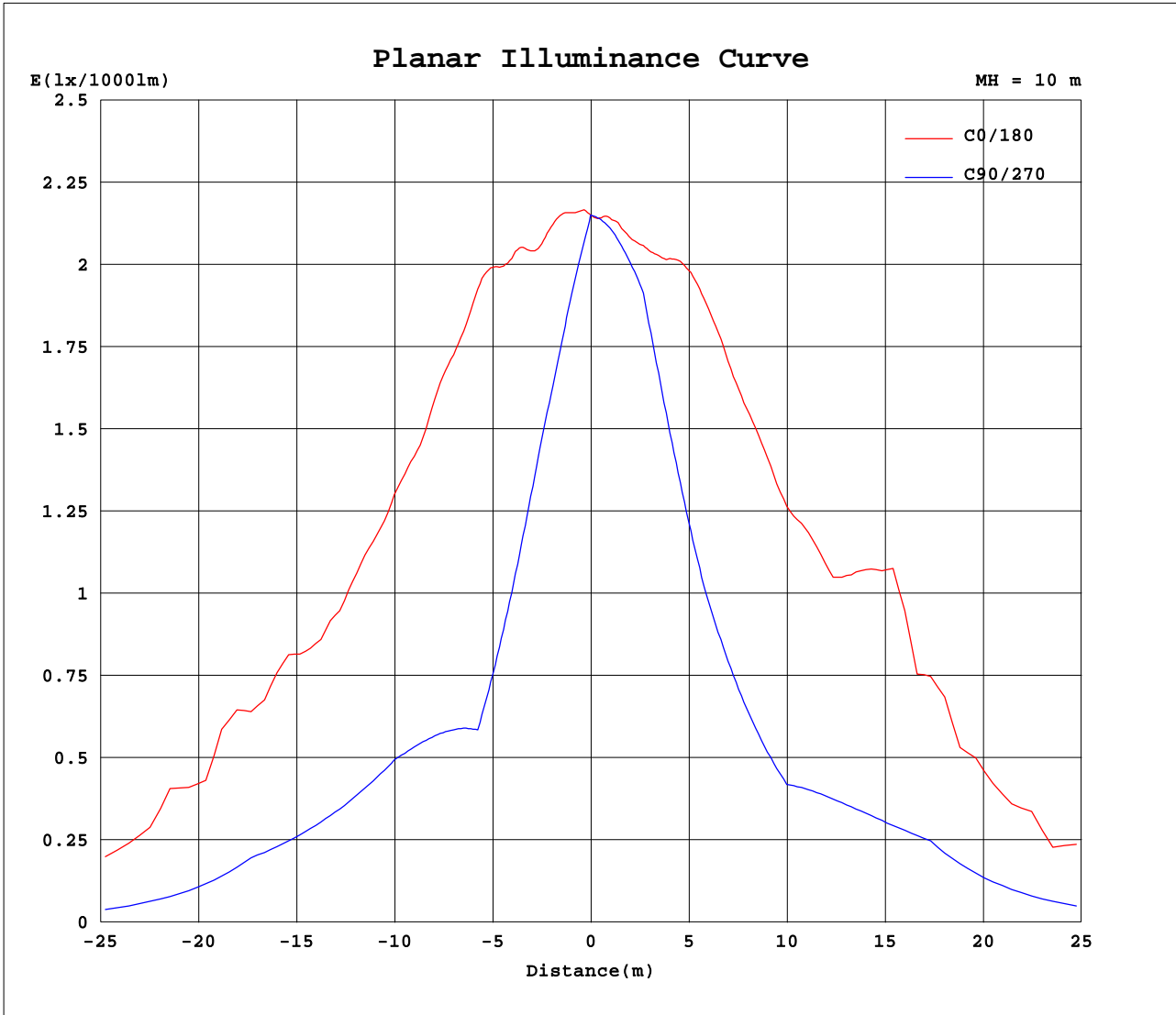
Test:U:221.5V I:0.1300A P:28.20W PF:0.9740 Lamp Flux:4372.96x1 lm		
NAME: LEAF RANGE	TYPE:30W	WEIGHT:1.5
DIM.:	SPEC.:6000K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
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 Test Speed: HIGH  
 Temperature:22DEG  
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 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 22DEG  
 Operators: ROMAN  
 Test Date: 2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity: 65.0%  
 Test Distance: 8.000m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.5V I:0.1300A P:28.20W PF:0.9740 Lamp Flux:4372.96x1 lm		
NAME: LEAF RANGE	TYPE:30W	WEIGHT:1.5
DIM.:	SPEC.:6000K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd/klm

C( DEG) g (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215
5	218	217	215	213	212	210	208	207	205	204	203	201	200	199	198	198	197	196	196
10	224	221	217	214	210	206	203	200	196	193	190	187	185	183	181	180	178	177	176
15	227	222	217	212	207	202	197	192	188	183	179	174	170	167	164	162	160	158	157
20	247	240	232	223	214	205	196	187	179	173	166	160	155	149	144	141	138	136	135
25	268	258	247	236	224	212	200	189	176	164	153	145	137	131	125	119	116	114	113
30	297	284	271	257	242	225	208	190	173	158	144	131	120	111	105	98.4	93.9	91.8	90.2
35	314	300	285	270	254	237	219	199	176	153	134	118	112	110	108	108	107	107	107
40	334	320	305	287	268	249	230	208	185	159	141	132	127	124	123	123	123	124	123
45	368	352	333	310	290	268	241	217	195	173	157	144	140	136	136	137	139	140	140
50	400	387	368	353	330	294	269	239	206	179	162	152	146	141	140	142	145	146	146
55	442	447	432	405	387	366	307	273	233	184	155	147	139	137	136	143	150	152	152
60	513	522	487	470	422	389	363	308	230	182	137	134	131	130	132	143	154	158	158
65	540	488	403	419	372	331	323	261	181	134	107	114	112	103	99.2	103	107	107	106
70	297	337	324	303	297	220	162	143	78.6	72.9	78.5	68.7	67.3	59.2	55.1	54.8	55.7	55.2	54.2
75	106	116	135	149	141	87.8	46.2	64.5	51.6	42.8	39.2	25.0	21.1	15.3	11.2	8.06	5.19	3.19	2.49
80	22.1	12.9	8.86	23.1	42.6	18.2	18.6	13.2	4.55	1.81	1.66	1.44	1.02	0.70	0.45	0.24	0.09	0.02	0.00
85	2.79	3.79	3.03	2.35	1.77	0.66	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
90	1.02	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: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Operators:ROMAN  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:



LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.5V I:0.1300A P:28.20W PF:0.9740 Lamp Flux:4372.96x1 lm		
NAME: LEAF RANGE	TYPE:30W	WEIGHT:1.5
DIM.:	SPEC.:6000K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd/klm

C( DEG) g (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215
5	196	196	196	196	197	198	199	200	202	203	205	207	208	210	212	214	215	217	217
10	176	177	177	179	180	182	184	186	189	193	196	199	202	206	209	213	216	220	220
15	157	157	159	160	162	166	170	174	178	183	188	193	199	205	211	217	223	228	228
20	135	136	137	140	144	150	155	161	167	174	183	193	201	210	219	227	236	244	243
25	113	114	116	121	126	131	138	146	159	170	181	192	205	219	232	245	258	269	270
30	90.4	92.0	95.6	101	106	113	123	135	147	162	178	195	213	231	248	263	278	292	293
35	106	106	106	104	104	105	107	121	138	158	180	202	223	241	259	277	294	310	314
40	123	122	122	120	120	120	123	127	136	160	185	209	230	249	272	295	315	335	340
45	140	139	137	135	134	135	138	144	157	174	194	219	244	267	288	314	338	358	369
50	145	144	143	144	144	148	151	158	175	196	221	238	268	316	343	364	394	412	423
55	150	148	148	149	147	147	150	159	190	233	302	357	371	437	487	516	564	569	569
60	154	153	154	153	150	140	138	145	175	268	465	376	462	398	529	498	575	599	585
65	104	106	111	118	124	121	110	111	128	210	235	321	410	343	422	473	476	479	488
70	53.6	55.5	59.7	65.1	69.9	73.0	69.5	73.5	62.9	47.6	93.8	174	224	285	336	341	341	411	323
75	3.01	4.78	8.11	12.6	17.2	22.8	26.5	30.3	28.3	18.8	28.4	30.4	61.7	133	119	126	108	96.9	94.3
80	0.02	0.08	0.21	0.45	0.67	1.12	1.55	2.05	2.54	2.74	7.00	8.42	3.32	3.14	13.1	5.25	6.47	6.73	23.3
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	1.19	1.57	1.64	2.11	2.05	2.87
90	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	0.99	0.00

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Operators:ROMAN  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.5V I:0.1300A P:28.20W PF:0.9740 Lamp Flux:4372.96x1 lm		
NAME: LEAF RANGE	TYPE:30W	WEIGHT:1.5
DIM.:	SPEC.:6000K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

Table--3

UNIT: cd/klm

C( DEG) g (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215
5	217	217	217	217	217	216	216	216	215	215	215	214	214	214	214	214	214	214	215
10	220	220	220	220	221	221	220	220	219	219	218	217	216	215	214	213	213	214	214
15	228	227	226	225	224	223	223	223	223	223	222	220	219	216	215	213	212	213	213
20	242	241	239	237	234	231	229	227	223	218	214	210	206	202	198	195	194	195	196
25	269	267	264	259	252	245	234	224	214	206	199	193	189	184	181	177	176	176	177
30	293	292	289	285	277	263	246	228	213	200	187	178	171	166	162	159	157	157	159
35	316	316	314	307	293	277	262	242	219	199	180	166	158	153	149	146	145	144	146
40	344	344	339	327	314	298	275	250	223	194	172	157	146	140	136	132	132	132	133
45	374	375	368	354	338	319	286	245	211	184	161	144	134	127	122	119	119	119	119
50	428	429	414	394	368	330	289	246	199	166	154	147	148	146	145	146	146	143	143
55	530	526	485	444	427	374	305	247	205	189	175	179	174	176	171	175	172	168	171
60	543	579	530	515	443	457	310	234	209	209	193	210	197	207	197	202	199	194	201
65	444	431	382	412	376	284	238	189	191	197	189	179	155	155	139	138	135	133	143
70	262	294	265	208	164	99.9	77.7	107	118	116	118	99.3	86.6	83.9	74.3	72.1	70.2	69.6	76.3
75	95.0	61.3	57.5	44.8	7.61	15.4	33.3	46.3	46.6	41.7	36.3	24.1	17.0	12.2	8.85	6.31	5.74	6.54	8.77
80	31.2	11.2	4.21	4.08	4.11	3.96	4.08	2.59	1.93	1.27	1.11	0.89	0.59	0.35	0.18	0.04	0.00	0.04	0.18
85	4.84	3.78	2.90	1.07	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
90	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: 5.0DEG  
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 Temperature:22DEG  
 Operators:ROMAN  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.5V I:0.1300A P:28.20W PF:0.9740 Lamp Flux:4372.96x1 lm		
NAME: LEAF RANGE	TYPE:30W	WEIGHT:1.5
DIM.:	SPEC.:6000K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

Table--4

UNIT: cd/klm

C( DEG) g (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215				
5	215	216	216	216	216	216	216	217	217	217	217	218	218	218	218				
10	215	215	215	216	216	217	218	219	220	221	222	223	223	223	224				
15	214	214	215	217	219	221	221	221	222	222	223	224	225	226	227				
20	198	200	205	210	214	217	221	223	226	230	234	238	241	244	246				
25	180	184	188	193	199	207	217	228	238	242	247	252	257	262	265				
30	162	166	171	178	191	203	216	229	243	257	269	278	286	291	294				
35	148	153	158	171	184	203	221	240	260	278	290	298	304	310	313				
40	136	141	150	162	180	202	230	259	279	296	315	327	331	333	334				
45	125	130	140	152	169	193	225	260	304	327	340	349	357	364	367				
50	147	145	148	144	153	174	205	243	294	352	372	386	390	395	400				
55	176	180	178	175	172	171	174	212	268	324	396	408	411	415	434				
60	205	217	205	200	192	182	178	193	220	273	334	450	499	484	520				
65	152	176	179	184	204	192	167	155	161	185	227	331	398	466	480				
70	82.2	96.8	103	108	117	124	109	91.4	83.0	80.7	90.8	108	185	277	306				
75	12.5	18.0	25.1	33.1	42.1	50.7	47.8	42.1	20.6	5.13	18.2	20.3	31.0	39.7	89.0				
80	0.39	0.56	0.74	1.05	1.33	1.70	2.55	4.48	4.44	3.31	3.51	3.58	6.38	5.41	20.6				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	2.68	3.05	3.26	3.16				
90	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				

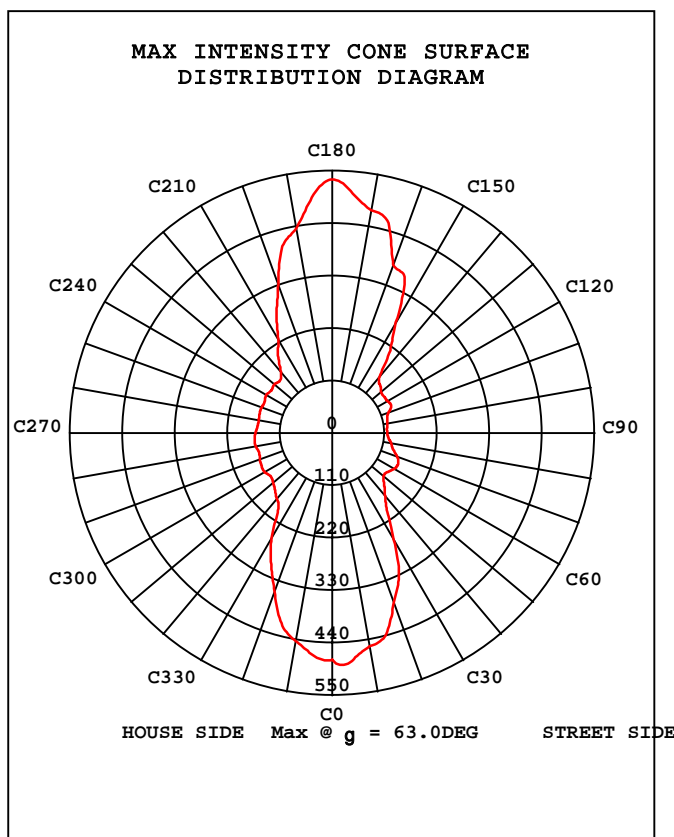
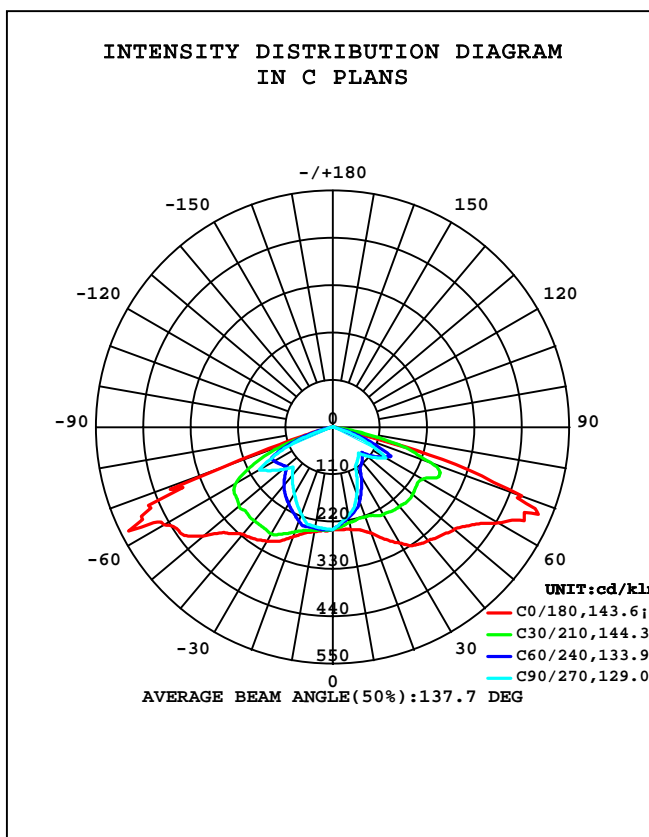
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Operators:ROMAN  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

**STREETLIGHT PHOTOMETRIC TEST REPORT**

Test:U:221.6V I:0.2440A P:52.10W PF:0.9620 Lamp Flux:5789.8x1 lm		
NAME: LEAF RANGE	TYPE:50W	WEIGHT:1.7
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 109.25 lm/W			
MODEL LEAF	RANGE 50W, 5700K	Imax(cd/klm)	532.4	h street_up(%)	0.0
NOMINAL POWER(W)	50	LOR(%)	98.3	h street_down(%)	46.6
RATED VOLTAGE(V)	222	TOTAL FLUX(lm/klm)	983.1	h house_up(%)	0.0
NOMINAL FLUX(lm)	5789.8	MAXIMUM @(C,g )	180,63.0	h house_down(%)	51.8
LAMPS INSIDE	1	h up(%)	0.0	76 FLASHAREA(m2)	
TEST VOLTAGE(V)	221.6	h down(%)	98.3	SLI	



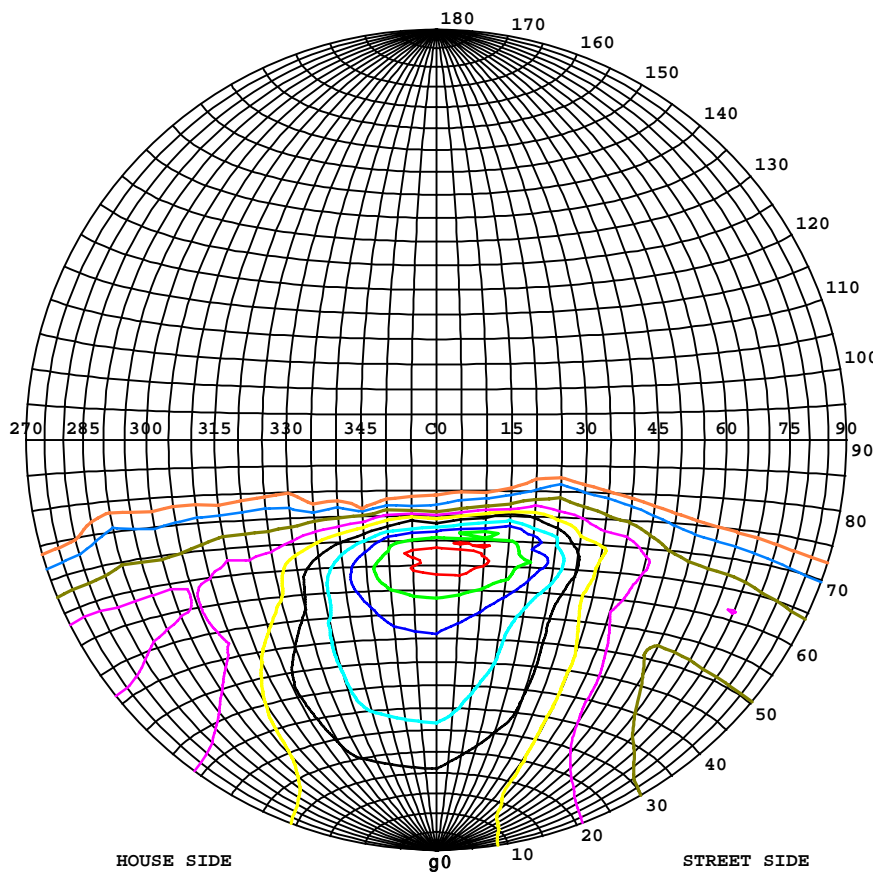
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

Note: SLI:Specific Luminaire Index

**STREETLIGHT ISOCANDELA DIAGRAM**

Test:U:221.6V I:0.2440A P:52.10W PF:0.9620 Lamp Flux:5789.8x1 lm		
NAME: LEAF RANGE	TYPE:50W	WEIGHT:1.7
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:



**Classification:**

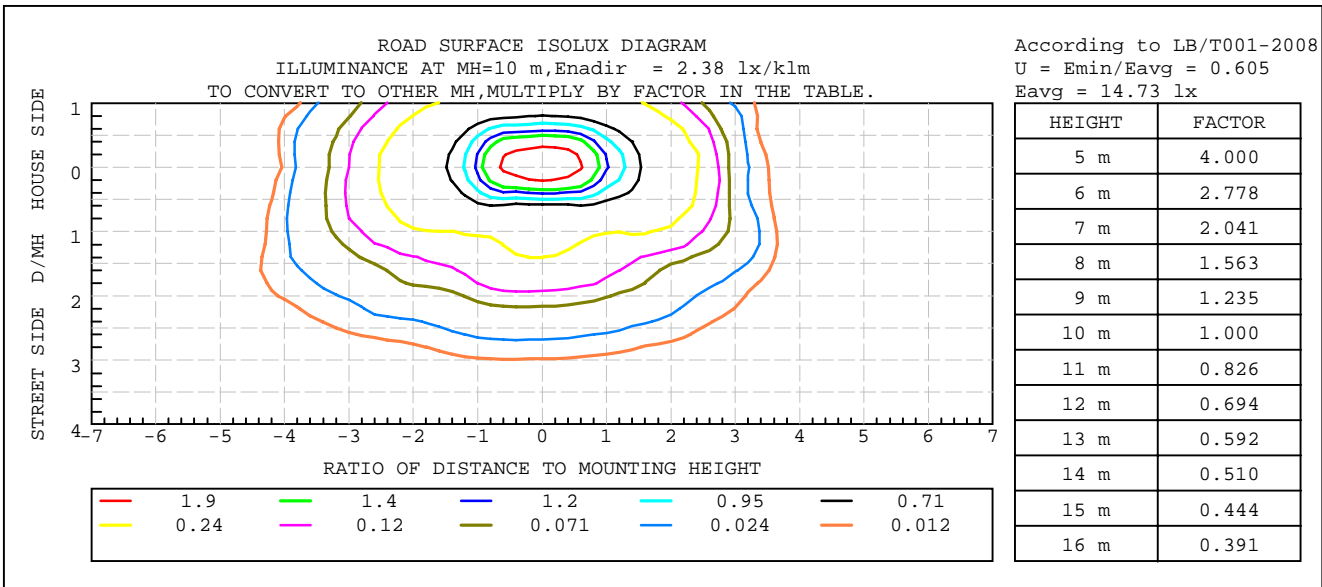
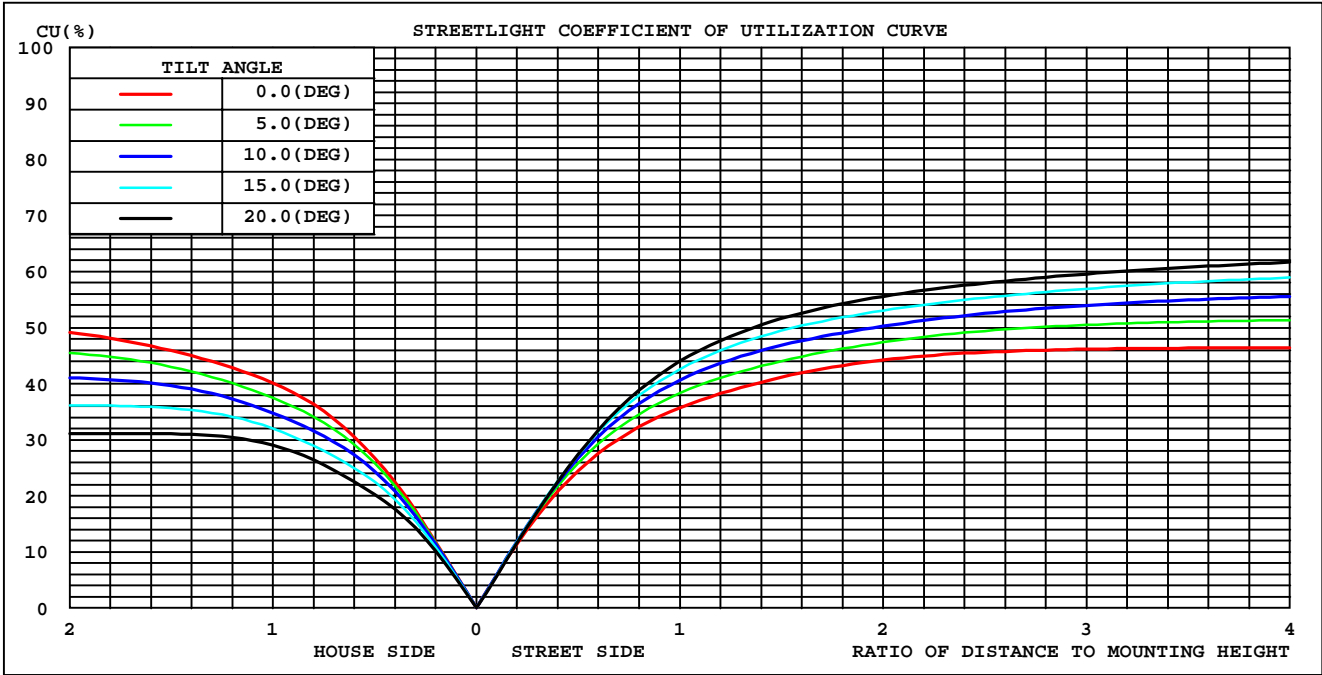
IES:Type II - Short  
 CIE:Narrow - Intermediate  
 IES:Cut-off  
 CIE:Semi-cut-off  
 Max.At80:83.01cd/klm  
 Max.At90:1.080cd/klm  
 Max.80-90:83.01cd/klm  
 NRB 5101:Semi limited[20.7%]

ISOCANDELA DIAGRAM	
UNIT	cd/klm
I <sub>max</sub> =100%	532
90%	479
80%	426
70%	373
60%	319
50%	266
40%	213
30%	160
20%	106
10%	53
5%	27

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

COEFFICIENT OF UTILIZATION CURVE  
AND ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 22DEG  
Test Date: 2019-03-21

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
Humidity: 65.0%  
Test Distance: 8.000m [K=1.0000]  
Remarks:

ZONAL FLUX DIAGRAM

Test:U:221.6V I:0.2440A P:52.10W PF:0.9620 Lamp Flux:5789.8x1 lm		
NAME: LEAF RANGE	TYPE:50W	WEIGHT:1.7
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

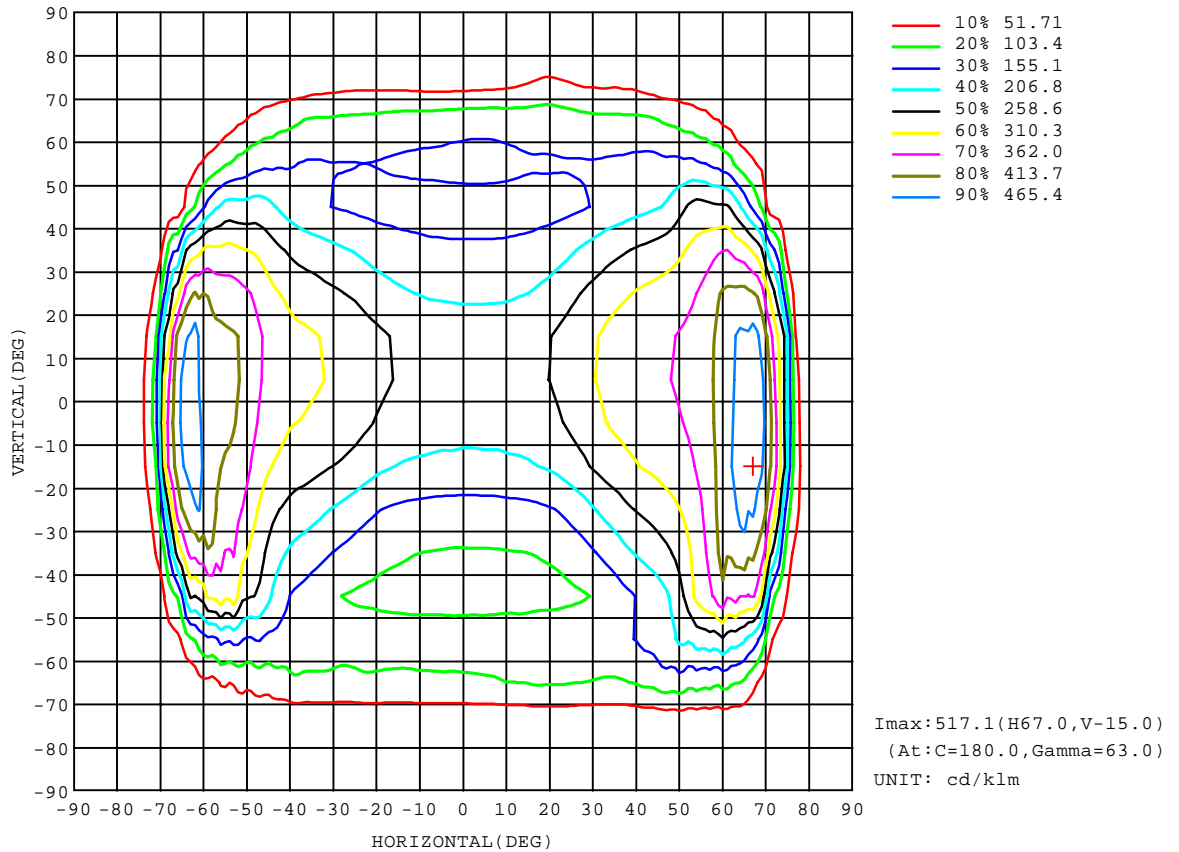
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	\$lum,lamp
5	240.0	228.9	223.6	230.9	241.6	240.5	236.7	238.1	0- 5	5.644	5.644	0.57,0.56
10	241.7	218.6	208.9	221.1	247.0	240.7	235.0	236.9	5- 10	16.63	22.28	2.27,2.23
15	247.5	211.1	194.2	213.1	254.7	244.3	233.4	238.1	10- 15	27.25	49.52	5.04,4.95
20	262.5	202.9	164.8	204.6	271.6	249.2	215.5	240.9	15- 20	37.37	86.89	8.84,8.69
25	287.2	188.2	135.4	190.6	292.4	246.0	197.5	238.6	20- 25	46.68	133.6	13.6,13.4
30	311.3	172.1	105.9	176.8	306.0	242.1	179.6	237.4	25- 30	55.38	189.0	19.2,18.9
35	335.1	161.2	99.34	166.4	317.3	239.5	163.3	239.0	30- 35	63.39	252.3	25.7,25.2
40	344.8	153.0	92.73	158.1	325.4	232.9	147.0	240.1	35- 40	71.05	323.4	32.9,32.3
45	357.0	152.5	86.13	150.7	348.0	213.7	130.7	224.5	40- 45	77.60	401.0	40.8,40.1
50	369.7	143.6	105.4	140.5	393.9	191.1	153.5	204.2	45- 50	84.47	485.5	49.4,48.5
55	395.8	134.6	124.7	128.6	431.0	162.9	176.3	176.7	50- 55	94.71	580.2	59.58
60	445.4	148.9	143.9	139.8	454.5	163.6	199.1	174.4	55- 60	106.6	686.7	69.9,68.7
65	490.7	159.3	97.18	142.2	490.6	147.7	136.4	166.7	60- 65	115.7	802.4	81.6,80.2
70	468.1	140.7	50.41	102.2	275.1	106.4	73.65	134.1	65- 70	103.2	905.6	92.1,90.6
75	173.7	68.86	3.646	49.65	39.01	51.19	10.94	67.88	70- 75	59.15	964.7	98.1,96.5
80	14.44	4.106	0	3.024	6.798	3.280	0	6.828	75- 80	16.18	980.9	99.8,98.1
85	4.040	0	0	0	2.484	0	0	0	80- 85	1.969	982.9	100,98.3
90	0.9348	0	0	0	1.080	0	0	0	85- 90	0.1984	983.1	100,98.3
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd/klm									UNIT:lm/klm		

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:221.6V I:0.2440A P:52.10W PF:0.9620 Lamp Flux:5789.8x1 lm		
NAME: LEAF RANGE	TYPE:50W	WEIGHT:1.7
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

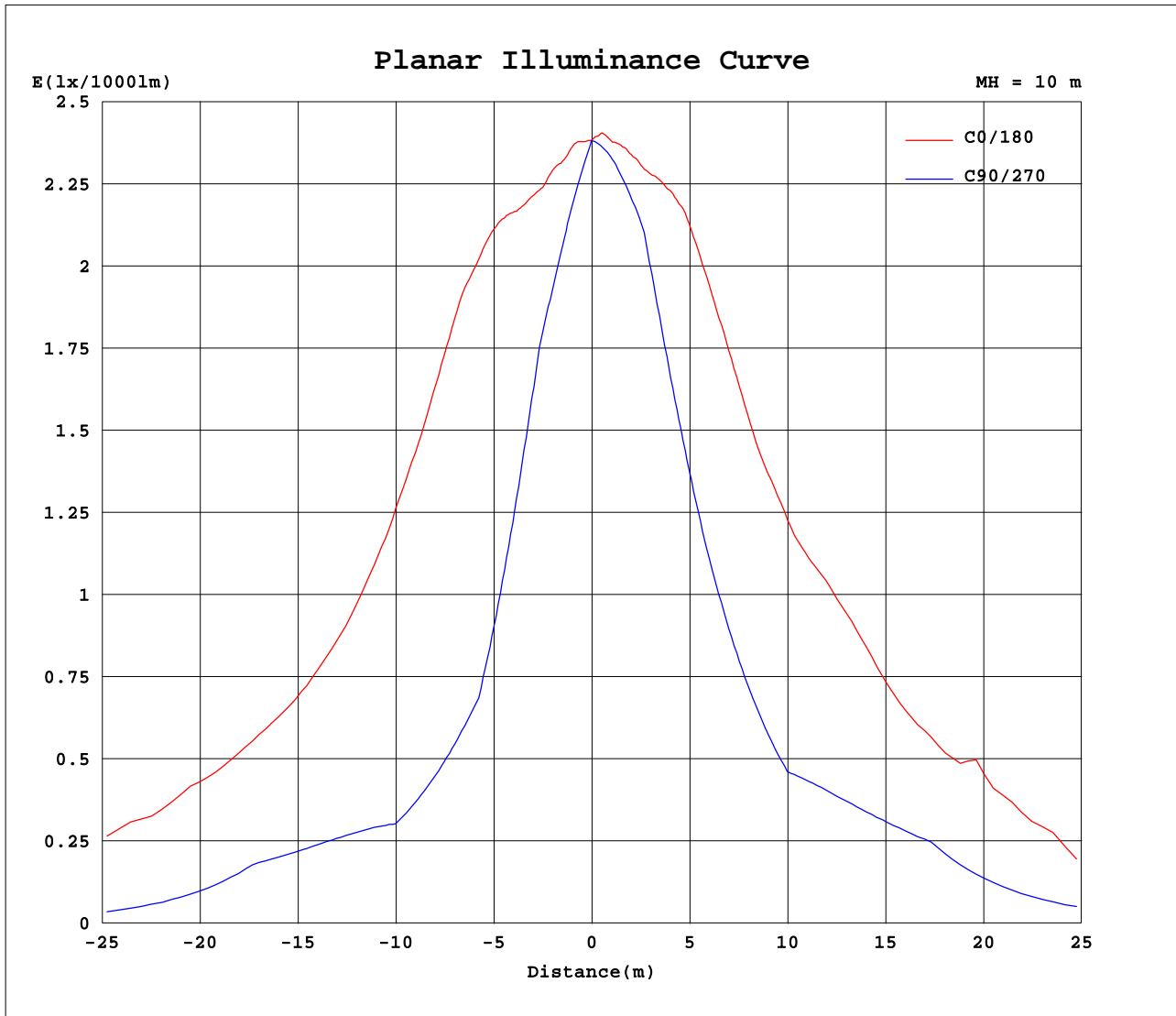


C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:



Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 22DEG  
 Test Date: 2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity: 65.0%  
 Test Distance: 8.000m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.6V I:0.2440A P:52.10W PF:0.9620 Lamp Flux:5789.8x1 lm		
NAME: LEAF RANGE	TYPE:50W	WEIGHT:1.7
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd/klm

C( DEG) g (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238
5	240	239	237	236	235	234	232	231	230	229	228	227	226	225	225	224	224	224	224
10	242	239	236	234	231	228	225	223	221	219	217	215	214	213	212	210	210	209	209
15	248	243	239	235	230	226	222	218	214	211	208	204	201	199	198	197	195	195	194
20	263	256	250	243	236	229	222	215	209	203	196	190	184	177	173	170	167	166	165
25	287	279	270	260	249	238	226	216	201	188	176	166	158	152	146	141	138	136	135
30	311	302	291	280	266	252	235	213	192	172	157	144	133	125	119	113	109	107	106
35	335	324	312	299	284	264	239	212	186	161	138	121	113	108	105	102	100	99.6	99.3
40	345	335	323	310	294	269	241	213	183	153	132	115	106	100	96.6	95.0	93.2	92.7	92.7
45	357	346	333	319	297	272	246	213	181	152	127	110	98.1	92.3	87.6	87.1	85.7	85.7	86.1
50	370	358	345	326	301	273	243	211	177	144	118	99.7	94.8	98.0	101	103	105	105	105
55	396	385	369	344	312	277	238	201	166	135	120	116	119	123	128	126	127	126	125
60	445	438	422	390	349	303	242	190	169	149	135	135	140	148	154	149	150	146	144
65	491	485	480	444	407	350	272	205	179	159	145	143	136	131	124	112	106	99.6	97.2
70	468	455	434	431	402	324	243	210	194	141	106	89.2	81.6	75.9	69.2	61.6	56.3	52.0	50.4
75	174	207	239	307	256	196	159	117	99.2	68.9	47.7	34.5	26.8	20.3	15.1	10.4	6.17	4.33	3.65
80	14.4	19.0	19.9	34.8	57.3	83.0	52.5	31.6	9.97	4.11	3.08	2.40	1.69	1.10	0.72	0.37	0.12	0.03	0.00
85	4.04	5.07	5.62	5.53	6.10	3.01	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
90	0.93	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: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.6V I:0.2440A P:52.10W PF:0.9620 Lamp Flux:5789.8x1 lm		
NAME: LEAF RANGE	TYPE:50W	WEIGHT:1.7
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd/klm

C( DEG) g (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238
5	224	225	225	226	227	228	229	230	231	232	233	234	235	236	238	239	240	242	241
10	210	211	212	213	214	215	217	219	221	224	227	229	232	235	238	241	244	247	247
15	195	197	197	198	200	203	206	210	213	217	221	226	231	235	240	245	250	255	254
20	166	168	170	174	179	184	191	198	205	211	218	226	234	242	250	257	265	272	271
25	136	138	142	147	153	160	168	179	191	204	219	230	242	254	264	274	284	292	291
30	106	110	114	120	127	136	147	160	177	196	217	236	252	264	275	286	296	306	305
35	99.5	102	104	107	111	117	126	144	166	190	212	233	253	270	283	295	307	317	316
40	92.9	94.7	96.8	99.9	105	111	121	137	158	182	206	230	253	275	289	302	314	325	325
45	86.4	87.7	89.3	92.9	96.5	103	114	131	151	175	202	226	250	277	304	320	335	348	347
50	105	104	102	101	98.8	97.5	101	117	140	168	194	226	259	295	332	360	380	394	391
55	124	122	120	118	116	114	111	118	129	156	194	241	292	344	380	405	419	431	425
60	142	141	137	135	134	128	125	130	140	156	213	271	319	374	397	437	443	455	443
65	97.2	98.9	101	107	117	120	135	136	142	150	200	250	319	389	459	463	478	491	472
70	50.6	52.2	54.6	59.8	67.0	70.9	84.3	95.5	102	97.7	118	178	243	284	302	303	314	275	274
75	3.99	5.45	8.10	11.8	17.0	22.7	31.6	42.8	49.7	59.2	68.9	69.4	94.8	94.9	75.3	50.4	42.3	39.0	40.4
80	0.03	0.10	0.24	0.43	0.71	1.14	1.67	2.42	3.02	5.34	13.3	17.6	9.58	9.04	10.0	8.12	6.87	6.80	6.96
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	1.94	2.57	2.33	2.40	2.48	2.56
90	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	1.08	0.00

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.6V I:0.2440A P:52.10W PF:0.9620 Lamp Flux:5789.8x1 lm		
NAME: LEAF RANGE	TYPE:50W	WEIGHT:1.7
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

Table--3

UNIT: cd/klm

C( DEG) g (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238
5	241	241	241	241	241	241	241	240	240	240	239	239	238	238	238	237	237	237	237
10	246	246	245	244	243	243	242	241	240	239	239	239	238	238	237	236	235	235	236
15	254	253	252	250	249	247	246	244	243	241	239	238	237	237	236	234	233	234	234
20	270	268	265	262	259	256	253	249	245	238	232	227	223	221	219	217	215	216	217
25	289	286	283	278	274	269	257	246	236	227	219	212	207	203	200	198	198	198	199
30	303	300	297	294	286	272	256	242	229	217	206	198	190	185	182	179	180	180	181
35	314	311	308	299	285	270	256	240	222	207	193	183	175	169	166	163	163	163	165
40	323	322	316	301	285	267	251	233	212	192	178	166	159	153	150	148	147	147	148
45	344	338	321	301	283	267	239	214	193	174	158	148	140	136	133	132	131	131	132
50	382	365	338	311	285	247	217	191	168	150	142	141	144	147	149	152	154	154	151
55	419	395	364	329	277	231	193	163	157	153	150	152	158	164	168	173	176	177	172
60	425	395	366	303	261	217	177	164	160	156	158	160	171	180	187	193	199	200	193
65	452	395	305	254	202	176	153	148	159	153	145	137	136	135	133	133	136	139	140
70	253	221	155	140	117	103	105	106	108	99.8	92.8	87.0	82.9	79.1	74.0	71.8	73.7	76.9	81.1
75	32.8	24.4	26.9	28.8	19.0	44.6	50.0	51.2	45.7	42.7	39.6	36.6	30.3	23.0	15.1	10.6	10.9	14.8	23.4
80	6.06	5.13	4.64	4.49	5.31	9.08	4.94	3.28	3.25	4.98	5.52	4.57	2.69	1.22	0.38	0.07	0.00	0.11	0.64
85	3.86	3.39	2.74	1.05	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
90	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: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.6V I:0.2440A P:52.10W PF:0.9620 Lamp Flux:5789.8x1 lm		
NAME: LEAF RANGE	TYPE:50W	WEIGHT:1.7
DIM.:	SPEC.:5700K	SERIAL No.:
MFR.: LED MARKET SRL	SUR.:	PROTECTION ANGLE:

Table--4

UNIT: cd/klm

C( DEG) g (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	238	238	238	238	238	238	238	238	238	238	238	238	238	238	238				
5	237	237	237	237	238	238	238	238	239	239	239	239	239	240	240				
10	236	236	236	237	237	237	237	237	238	238	239	239	240	241	241				
15	234	234	235	235	235	237	238	239	240	242	243	244	245	246	247				
20	218	220	223	227	231	237	241	244	248	251	254	256	258	260	262				
25	201	204	208	214	220	229	239	249	260	267	272	277	281	284	286				
30	184	188	194	201	212	223	237	253	268	283	293	299	304	307	310				
35	168	173	179	190	205	221	239	258	276	292	308	320	326	330	333				
40	151	156	164	176	192	213	240	262	282	301	317	331	338	342	344				
45	135	139	146	157	174	197	224	255	286	303	320	336	349	353	355				
50	146	142	141	142	152	175	204	233	265	301	322	338	355	364	368				
55	164	157	154	153	156	165	177	205	239	276	317	343	365	386	393				
60	179	171	165	161	159	165	174	188	208	259	310	355	393	424	441				
65	139	145	146	149	155	159	167	174	192	245	292	344	414	448	478				
70	90.0	102	100	98.9	106	117	134	139	142	169	212	261	321	401	431				
75	42.5	58.9	53.4	50.2	57.0	64.2	67.9	72.8	78.1	71.9	87.2	99.0	111	168	193				
80	2.69	6.43	8.02	9.41	13.4	14.6	6.83	8.37	18.1	24.8	10.1	12.0	9.38	11.4	14.8				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	3.28	4.13	4.78	4.18				
90	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: 5.0DEG  
 Test Speed: HIGH  
 Temperature:22DEG  
 Test Date:2019-03-21

g Range: 0 - 90DEG  
 g Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:8.000m [K=1.0000]  
 Remarks: