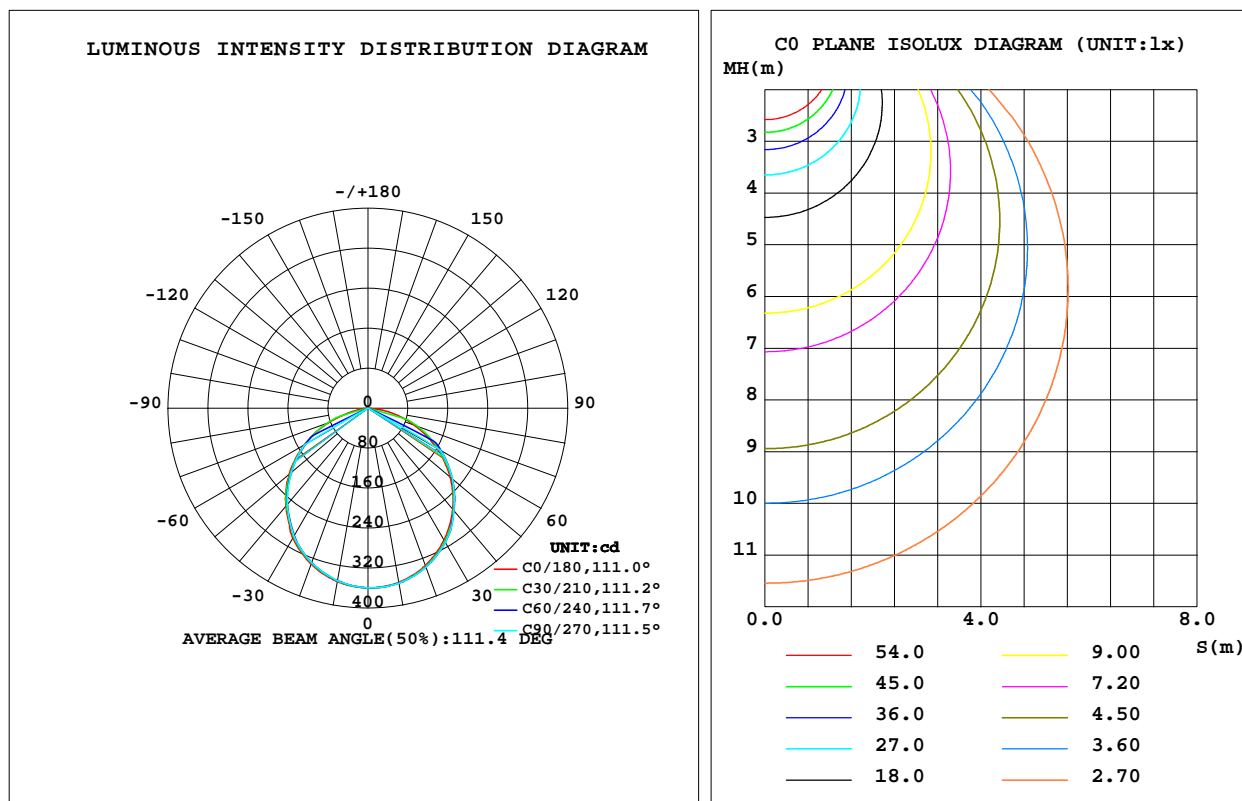


# LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: PP020215-SDG	TYPE:LED	WEIGHT:1.648(Kg)
DIM.: D350*300	SPEC.:	SERIAL No.:
MFR.:	SUR.:f345	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 43.59 lm/W			
MODEL		Imax(cd)	359.7	S/MH(C0/180)	1.26
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	909.73	h UP,DN(C0-180)	0.0,51.1
NOMINAL FLUX(lm)	909.734	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.0,48.9
LAMPS INSIDE	1	h up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	219.2	h down(%)	100.0	CIBSE SHR MAX	1.30



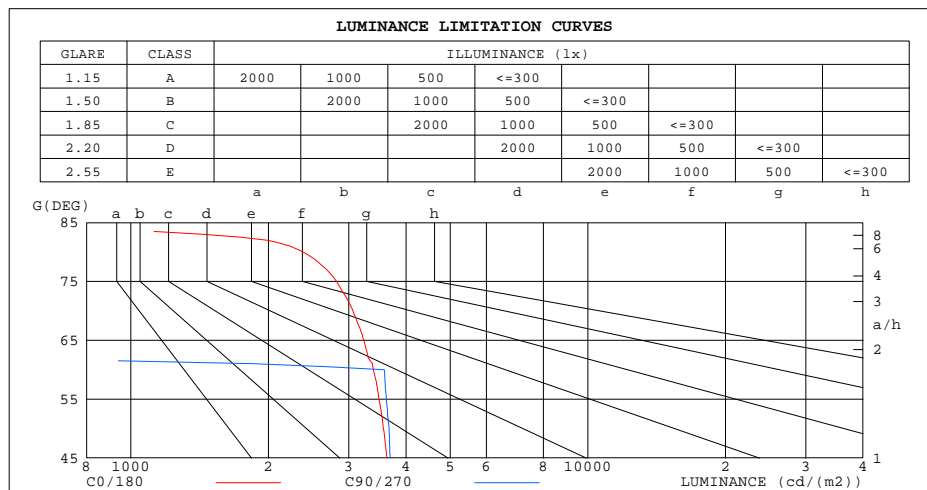
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZENGQG  
Test Date:2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:9.650m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM AND LUMINANCE LIMITATION CURVES

### ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum,lamp
5	358.4	358.8	359.0	358.3	357.7	356.7	356.6	357.1	0- 5	8.574	8.574	0.94,0.94
10	354.0	355.0	355.7	354.1	352.4	350.6	350.8	351.5	5- 10	25.42	34.00	3.74,3.74
15	346.0	348.4	348.5	346.7	343.8	341.6	341.2	342.9	10- 15	41.39	75.38	8.29,8.29
20	335.2	338.1	338.7	336.1	332.0	329.5	329.4	331.0	15- 20	55.91	131.3	14.4,14.4
25	321.2	324.9	325.5	322.3	317.7	314.3	314.0	316.3	20- 25	68.50	199.8	22,22
30	304.6	308.9	309.9	306.1	300.7	296.7	296.6	298.4	25- 30	78.73	278.5	30.6,30.6
35	285.5	290.5	291.0	286.4	277.3	276.3	273.5	276.6	30- 35	86.11	364.6	40.1,40.1
40	264.0	269.7	267.6	263.2	255.5	251.3	251.7	257.0	35- 40	90.35	455.0	50,50
45	240.3	244.1	244.2	242.5	231.9	227.8	226.2	231.0	40- 45	91.79	546.8	60.1,60.1
50	214.6	219.8	220.9	214.9	205.9	201.9	200.7	205.5	45- 50	90.18	637.0	70,70
55	187.2	192.7	194.3	187.6	177.7	174.1	173.5	178.2	50- 55	85.69	722.6	79.4,79.4
60	158.7	168.3	167.7	159.8	147.7	145.8	146.3	151.5	55- 60	78.43	801.1	88.1,88.1
65	127.8	138.9	0	129.1	115.9	115.4	0	121.1	60- 65	55.34	856.4	94.1,94.1
70	97.85	0	0	0	82.00	0	0	0	65- 70	29.91	886.3	97.4,97.4
75	68.22	0	0	0	47.65	0	0	0	70- 75	15.50	901.8	99.1,99.1
80	38.68	0	0	0	20.80	0	0	0	75- 80	6.373	908.2	99.8,99.8
85	2.918	0	0	0	0.7110	0	0	0	80- 85	1.487	909.7	100,100
90	0.3294	0	0	0	0.2398	0	0	0	85- 90	0.0473	909.7	100,100
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									UNIT:lm		



LUMINANCE cd/(m²)		
G(°)	C0/180	C90/270
85	358	0
80	2383	0
75	2820	0
70	3060	0
65	3235	0
60	3395	3587
55	3491	3624
50	3571	3676
45	3635	3695

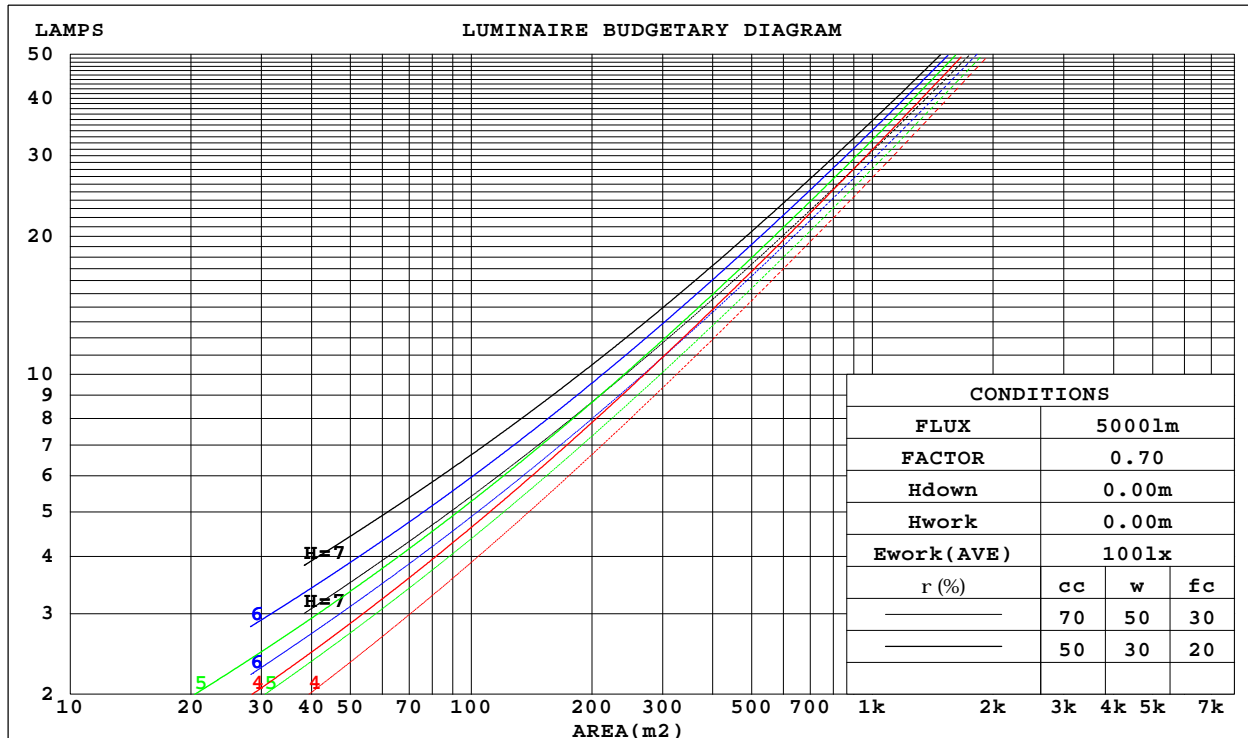
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZENGQG  
Test Date:2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:9.650m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: PP020215-SDG	TYPE:LED	WEIGHT:1.648(Kg)
DIM.: D350*300	SPEC.:	SERIAL No.:
MFR.:	SUR.:f345	PROTECTION ANGLE:

r <sub>cc</sub>	80%			70%			50%			30%			10%			0
r <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.06	1.03	.99	1.04	1.01	.98	.90	.97	.95	.96	.94	.92	.93	.91	.89	.87
2.0	.94	.88	.83	.92	.87	.82	.89	.84	.80	.85	.82	.78	.82	.79	.76	.74
3.0	.83	.76	.70	.82	.75	.69	.79	.73	.68	.76	.71	.67	.74	.69	.66	.64
4.0	.74	.66	.60	.73	.65	.59	.70	.64	.58	.68	.62	.58	.66	.61	.57	.55
5.0	.66	.58	.52	.65	.57	.51	.63	.56	.51	.61	.55	.50	.59	.54	.50	.48
6.0	.60	.51	.45	.59	.51	.45	.57	.50	.45	.56	.49	.44	.54	.48	.44	.42
7.0	.54	.46	.40	.54	.46	.40	.52	.45	.40	.51	.44	.39	.49	.43	.39	.37
8.0	.50	.41	.36	.49	.41	.36	.48	.40	.35	.46	.40	.35	.45	.39	.35	.33
9.0	.46	.38	.32	.45	.37	.32	.44	.37	.32	.43	.36	.32	.42	.36	.32	.30
10.0	.42	.34	.29	.41	.34	.29	.40	.34	.29	.40	.33	.29	.39	.33	.29	.27



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZENGQG  
Test Date:2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:9.650m [K=1.0000]  
Remarks:

WEC AND CCEC

NAME: PP020215-SDG	TYPE:LED	WEIGHT:1.648(Kg)
DIM.: D350*300	SPEC.:	SERIAL No.:
MFR.:	SUR.:f345	PROTECTION ANGLE:

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio Wall Exitance Coefficients(WEC)															
0.0																
1.0	.263	.149	.047	.256	.146	.046	.243	.139	.044	.231	.133	.043	.220	.127	.041	
2.0	.258	.141	.043	.252	.139	.043	.240	.134	.042	.230	.129	.040	.220	.125	.039	
3.0	.245	.130	.039	.240	.128	.039	.230	.124	.038	.220	.121	.037	.212	.117	.036	
4.0	.231	.120	.035	.226	.118	.035	.217	.115	.034	.209	.112	.034	.201	.109	.033	
5.0	.216	.110	.032	.212	.109	.032	.204	.106	.031	.197	.104	.031	.190	.101	.030	
6.0	.203	.102	.029	.199	.100	.029	.192	.098	.029	.185	.096	.028	.179	.094	.028	
7.0	.190	.094	.027	.187	.093	.027	.180	.091	.026	.175	.090	.026	.169	.088	.026	
8.0	.179	.087	.025	.176	.087	.024	.170	.085	.024	.165	.083	.024	.160	.082	.024	
9.0	.168	.081	.023	.166	.081	.023	.161	.079	.022	.156	.078	.022	.151	.077	.022	
10.0	.159	.076	.021	.156	.076	.021	.152	.074	.021	.147	.073	.021	.143	.072	.021	

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio Ceiling Cavity Exitance Coefficients(CCEC)															
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.177	.157	.138	.151	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.168	.132	.102	.144	.114	.088	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.160	.114	.078	.137	.098	.067	.094	.068	.047	.054	.040	.028	.017	.013	.009	
4.0	.152	.101	.061	.131	.087	.053	.090	.061	.037	.052	.035	.022	.017	.012	.007	
5.0	.145	.090	.049	.125	.078	.043	.086	.054	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.041	.119	.071	.035	.082	.049	.025	.048	.029	.015	.015	.010	.005	
7.0	.132	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.126	.069	.030	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.120	.064	.026	.104	.056	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.036	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZENGQG  
Test Date:2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:9.650m [K=1.0000]  
Remarks:

### Uncorrected UGR Table

NAME: PP020215-SDG					TYPE:LED		WEIGHT:1.648(Kg)				
DIM.: D350*300					SPEC.:		SERIAL No.:				
MFR.:					SUR.:f345		PROTECTION ANGLE:				
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions		Viewed crosswise					Viewed endwise				
x = 2H y = 2H	17.8	19.2	18.0	19.4	19.6	17.2	18.6	17.4	18.8	19.0	
	3H	19.3	20.6	19.6	20.8	21.1	16.9	18.3	17.2	18.5	18.7
	4H	19.9	21.1	20.2	21.4	21.6	16.8	18.1	17.1	18.3	18.6
	6H	20.3	21.4	20.6	21.7	22.0	16.7	17.9	17.1	18.2	18.4
	8H	20.3	21.4	20.6	21.7	22.0	16.7	17.8	17.0	18.1	18.4
	12H	20.3	21.3	20.6	21.6	21.9	16.6	17.7	17.0	18.0	18.3
4H	2H	18.3	19.6	18.7	19.8	20.1	17.8	19.0	18.1	19.2	19.5
	3H	20.0	21.1	20.4	21.4	21.7	17.6	18.6	17.9	18.9	19.2
	4H	20.7	21.7	21.1	22.0	22.3	17.5	18.4	17.8	18.7	19.1
	6H	21.2	22.1	21.6	22.4	22.8	17.4	18.2	17.8	18.6	18.9
	8H	21.3	22.1	21.7	22.4	22.8	17.3	18.1	17.7	18.5	18.9
	12H	21.3	22.0	21.7	22.4	22.8	17.3	18.0	17.7	18.4	18.8
8H	4H	20.6	21.4	21.0	21.7	22.1	17.5	18.3	17.9	18.7	19.0
	6H	21.1	21.7	21.5	22.1	22.5	17.4	18.1	17.9	18.5	18.9
	8H	21.2	21.7	21.6	22.1	22.6	17.4	18.0	17.8	18.4	18.8
	12H	21.1	21.6	21.6	22.1	22.5	17.4	17.8	17.8	18.3	18.8
12H	4H	20.5	21.3	21.0	21.7	22.1	17.5	18.2	17.9	18.6	19.0
	6H	21.0	21.6	21.5	22.0	22.5	17.4	18.0	17.9	18.4	18.8
	8H	21.1	21.6	21.6	22.0	22.5	17.4	17.8	17.8	18.3	18.8
Variations with the observer position at spacings:											
S = 1.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.5					
1.5H	+ 0.3 / - 0.2					+ 1.3 / - 2.1					
2.0H	+ 0.4 / - 1.3					+ 0.9 / - 1.4					

CIE Pub.117 Corrected 909.7 lm Total Lamp Luminous Flux.(8log(F/F0) = -0.3)

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZENGQG  
Test Date:2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:9.650m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

NAME: PP020215-SDG	TYPE:LED	WEIGHT:1.648(Kg)
DIM.: D350*300	SPEC.:	SERIAL No.:
MFR.:	SUR.:f345	PROTECTION ANGLE:

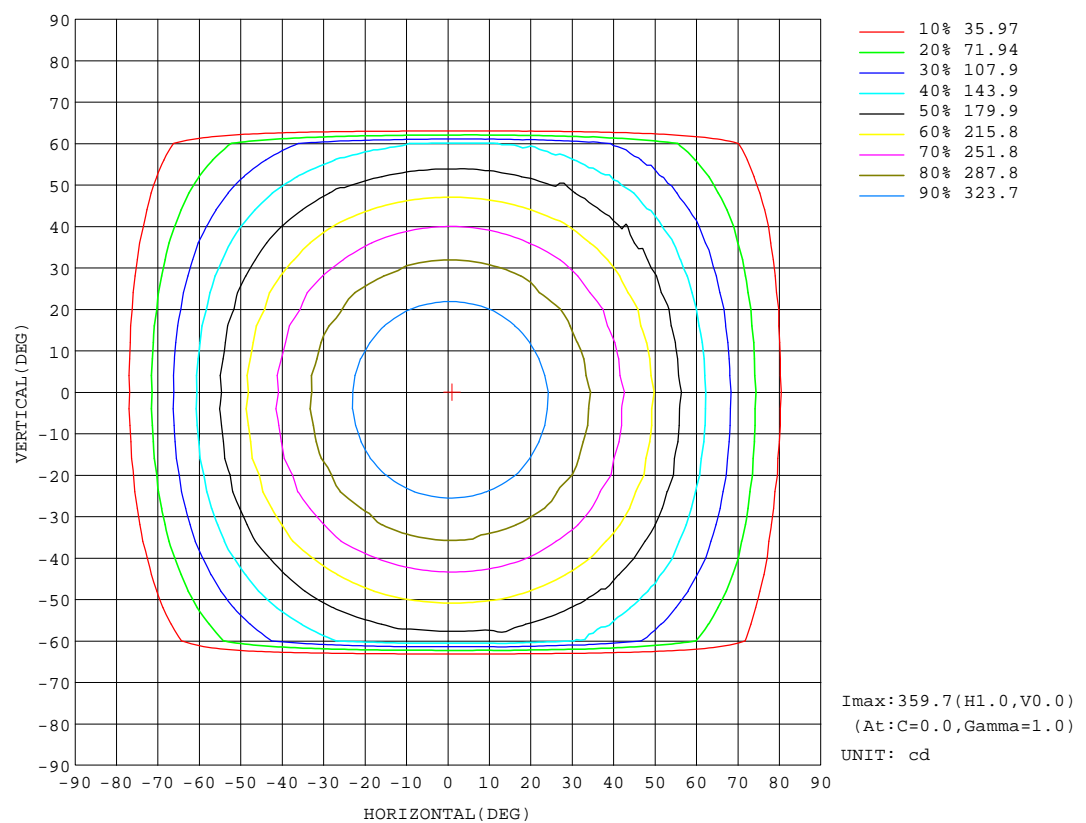
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	49	42	59	48	42	58	48	42	35
0.80	71	60	53	70	59	52	68	58	52	45
1.00	80	69	63	78	69	62	76	70	62	55
1.25	87	77	71	85	77	70	83	75	70	63
1.50	92	83	77	90	82	76	87	80	75	68
2.00	98	91	85	97	90	84	93	88	83	76
2.50	102	95	90	100	94	89	96	91	87	79
3.00	105	99	94	103	97	93	99	95	91	83
4.00	108	103	99	106	102	98	102	98	95	87
5.00	110	106	103	108	104	101	104	101	98	89
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended				SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZENGQG  
Test Date:2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:9.650m [K=1.0000]  
Remarks:

# ISOCANDELA DIAGRAM

NAME: PP020215-SDG	TYPE:LED	WEIGHT:1.648(Kg)
DIM.: D350*300	SPEC.:	SERIAL No.:
MFR.:	SUR.:f345	PROTECTION ANGLE:

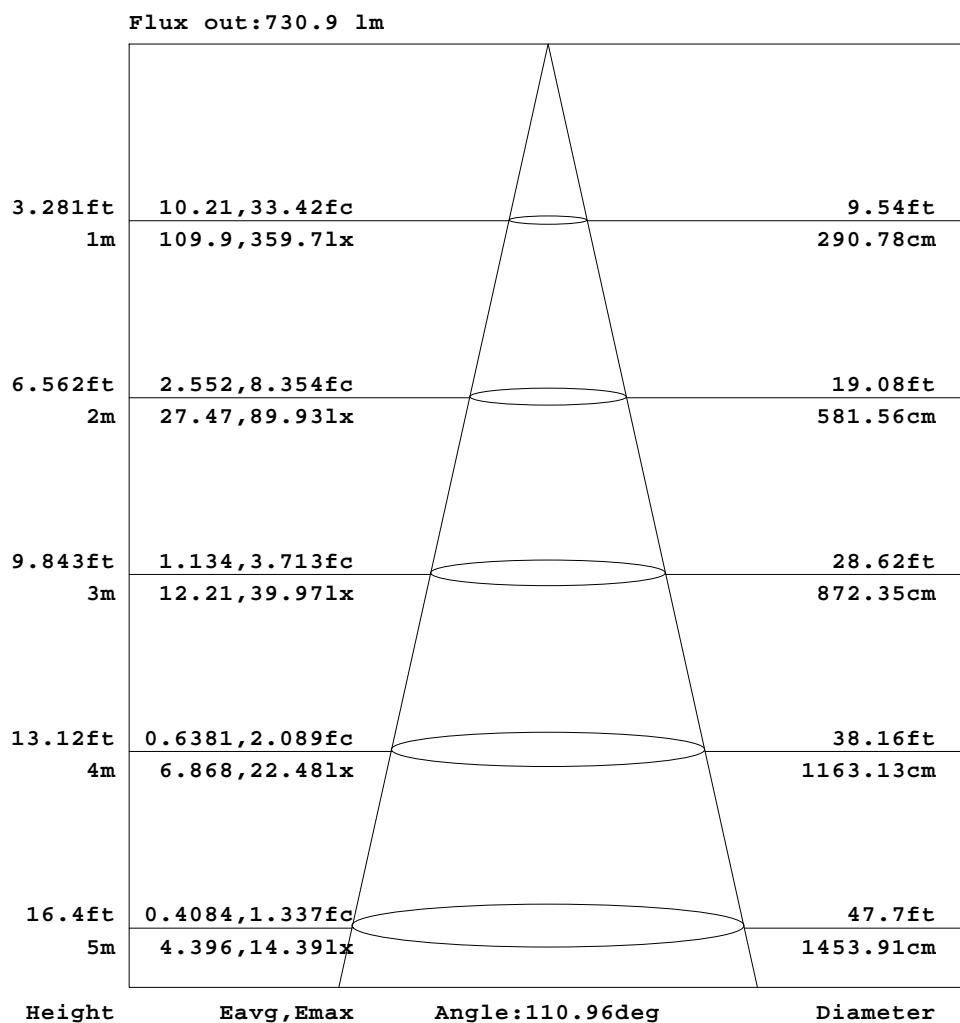


C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZENGQG  
Test Date:2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:9.650m [K=1.0000]  
Remarks:

AAI Figure

NAME: PP020215-SDG	TYPE:LED	WEIGHT:1.648(Kg)
DIM.: D350*300	SPEC.:	SERIAL No.:
MFR.:	SUR.:f345	PROTECTION ANGLE:



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

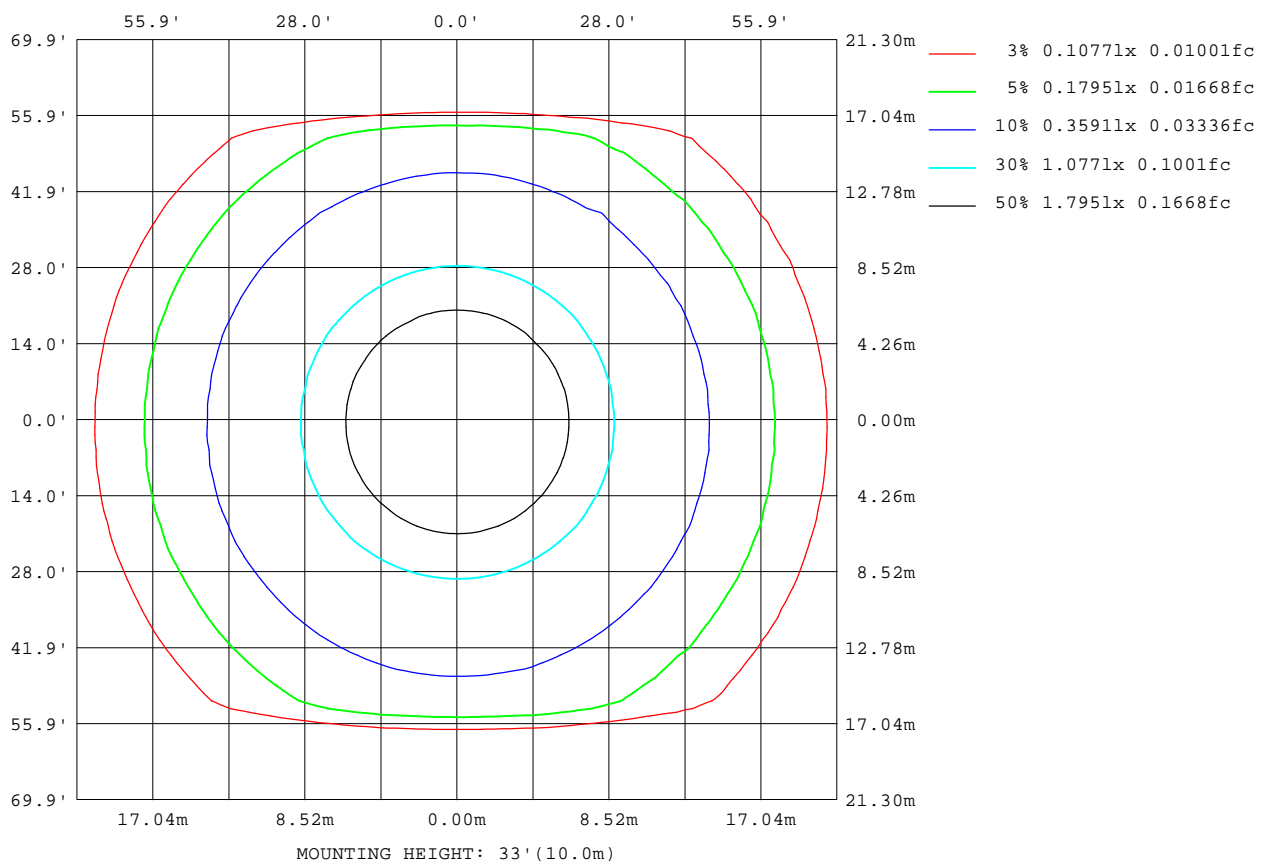
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZENGQ  
Test Date:2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:9.650m [K=1.0000]  
Remarks:



### ISOLUX DIAGRAM

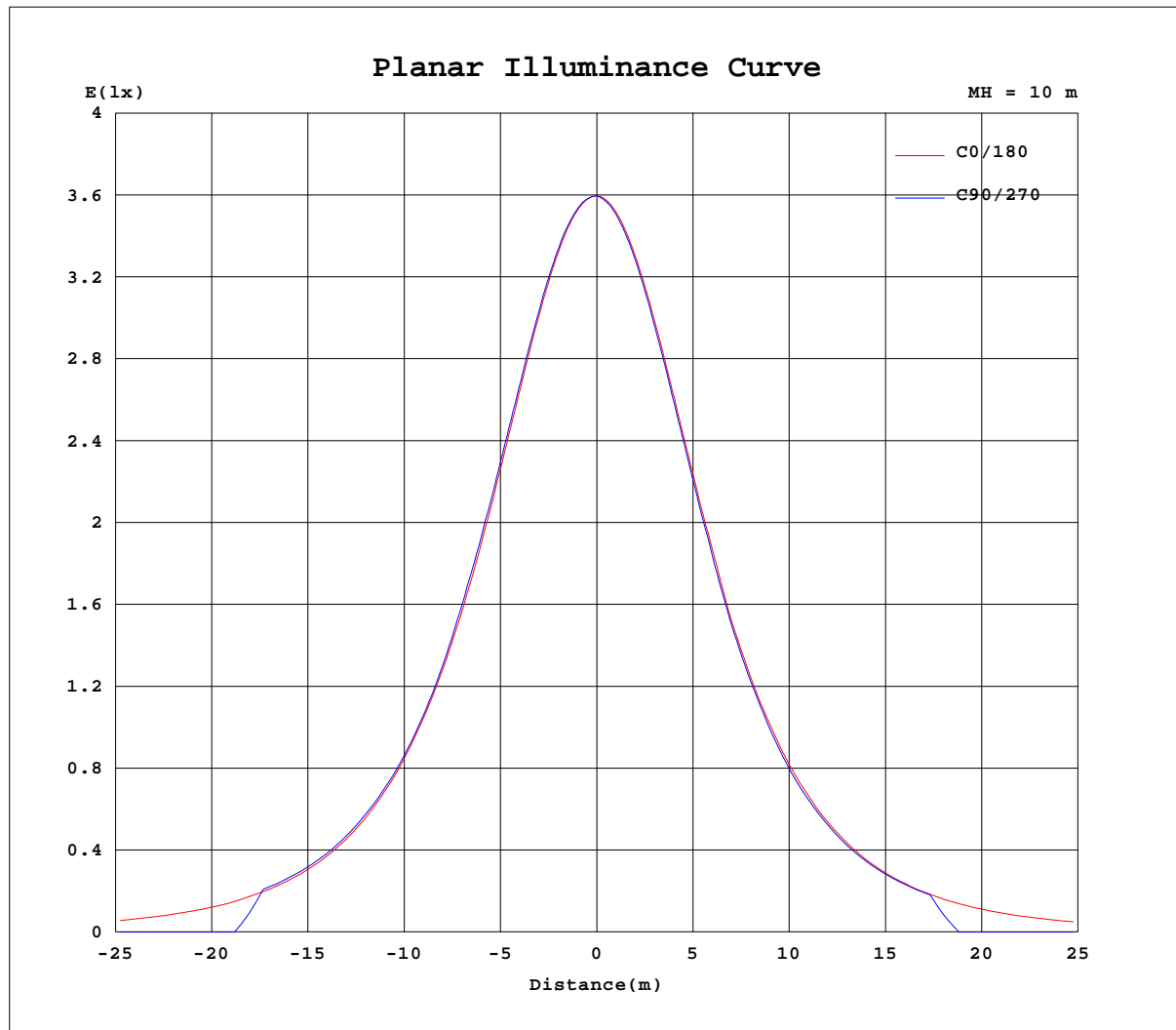
NAME: PP020215-SDG	TYPE:LED	WEIGHT:1.648(Kg)
DIM.: D350*300	SPEC.:	SERIAL No.:
MFR.:	SUR.:f345	PROTECTION ANGLE:



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZENGQG  
Test Date:2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:9.650m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: ZENGQG  
Test Date: 2019-11-10

g Range: 0 - 90DEG  
g Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity: 65.0%  
Test Distance: 9.650m [K=1.0000]  
Remarks: