

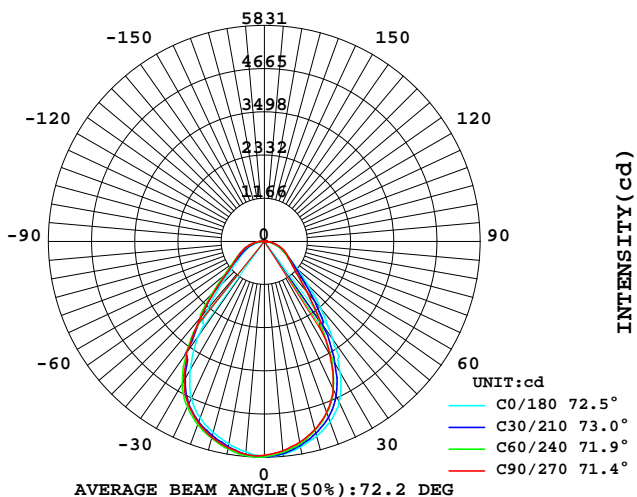
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

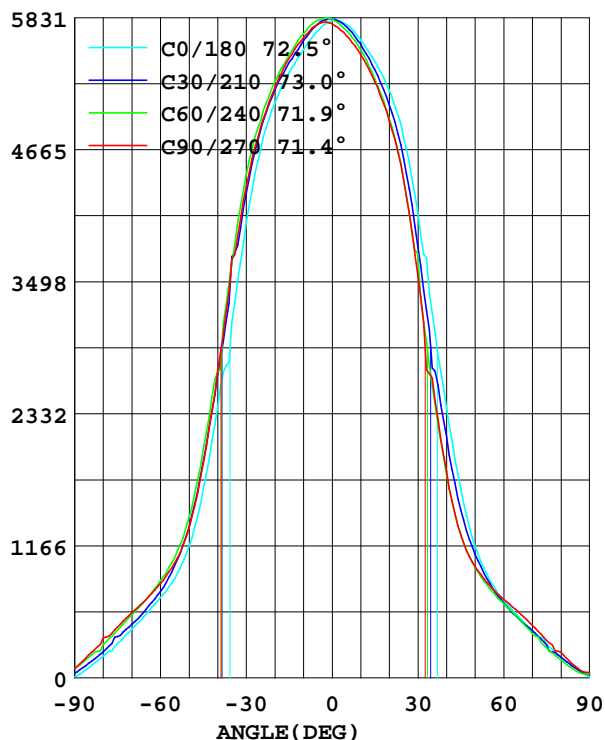
MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

DATA OF LAMP		I <sub>max</sub> (cd)	5831	S/MH(C0/180)	1.04
MODEL		EFFICIENCY(%)	100.0	S/MH(C90/270)	1.12
NOMINAL POWER(W)	70	TOTAL FLUX(lm)	9443.1	Voltage(V)	218.6
RATED VOLTAGE(V)	218	EFFICIENCY(lm/W)	134.6	Current(A)	0.329
NOMINAL FLUX(lm)	9443.2	h up(%)	0.8	Power(W)	70.16
LAMPS QUANTITY	1	h down(%)	99.2	Power Factor(PF)	0.975
TEST VOLTAGE(V)	218.7	Effective Flux(lm)	8633.2	EEI	0.111

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



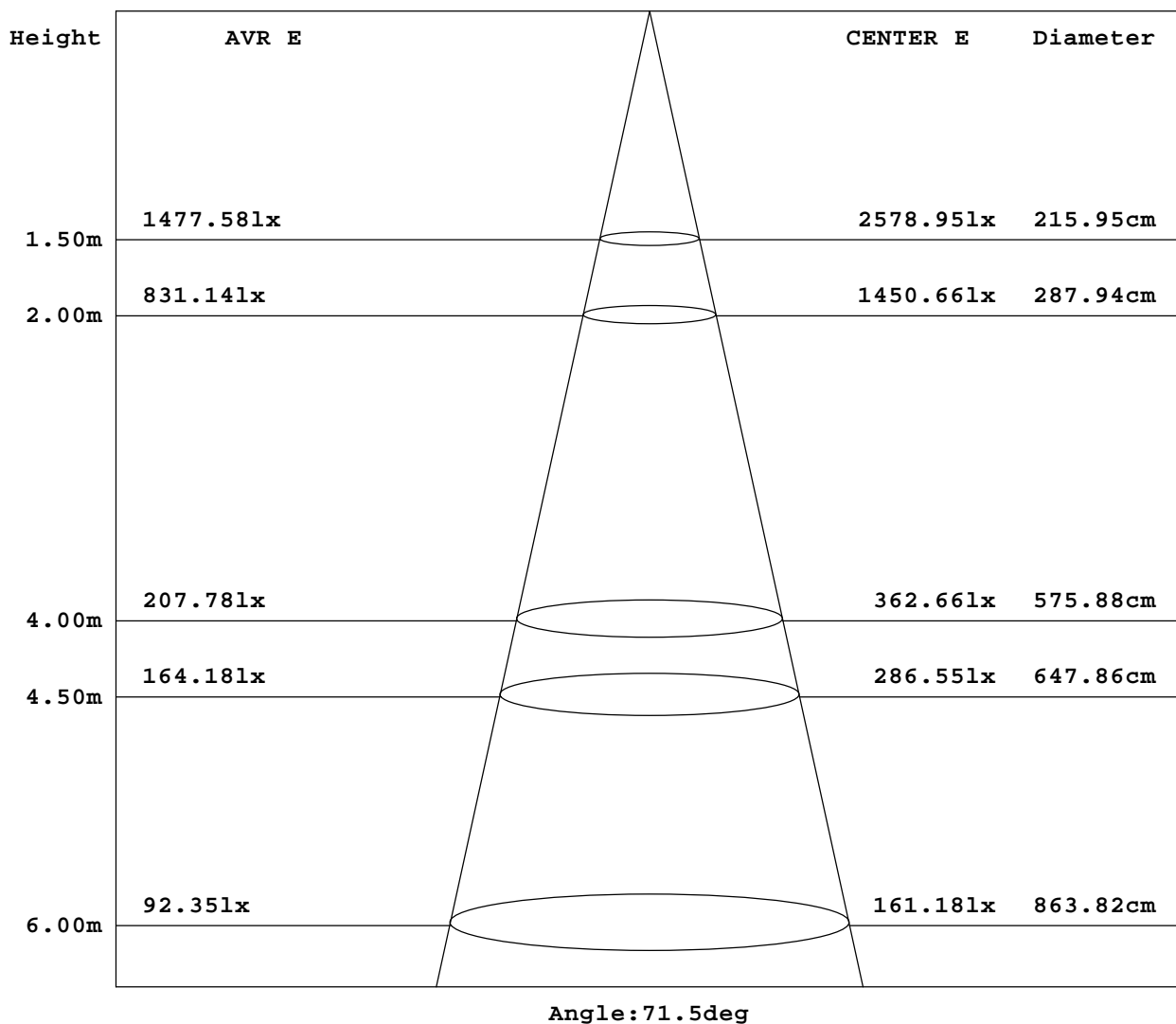
Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



Test System: HOPOO HPG1800  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
 Humidity: 65.0%  
 Test Distance: 11.000 m  
 Remarks:

## ZONAL FLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	zone	tStal
5.0	5713	5791	5771	5782	5770	5733	5672	5710	0- 5	138.0	138.0
10.0	5548	5660	5658	5642	5633	5572	5506	5550	5- 10	405.7	543.7
15.0	5347	5469	5474	5447	5442	5328	5260	5338	10- 15	651.5	1195
20.0	5074	5224	5209	5183	5189	4996	4917	5044	15- 20	865.4	2061
25.0	4663	4882	4864	4801	4776	4500	4408	4626	20- 25	1030	3091
30.0	4020	4363	4340	4205	4112	3775	3553	3926	25- 30	1108	4199
35.0	3146	3691	3702	3353	3222	2659	2651	3020	30- 35	1062	5261
40.0	2381	2684	2701	2517	2375	1957	1822	2200	35- 40	907.5	6169
45.0	1673	1972	1901	1797	1678	1377	1264	1533	40- 45	731.9	6901
50.0	1162	1372	1320	1265	1163	1034	981.1	1106	45- 50	563.9	7464
55.0	874.7	1028	1017	958.6	868.6	814.8	819.1	870.2	50- 55	450.2	7915
60.0	711.3	813.4	836.0	756.4	687.9	660.0	693.8	695.7	55- 60	376.4	8291
65.0	562.9	648.8	691.8	604.6	547.1	529.9	587.7	561.9	60- 65	320.4	8612
70.0	426.8	514.5	575.9	471.4	416.3	404.3	464.7	432.7	65- 70	265.4	8877
75.0	305.7	395.0	449.8	369.2	301.4	279.4	333.0	311.2	70- 75	210.0	9087
80.0	193.7	262.4	353.8	219.4	187.3	173.1	226.7	197.9	75- 80	148.3	9235
85.0	89.97	155.9	205.4	128.9	87.67	77.33	102.9	95.72	80- 85	90.92	9326
90.0	8.663	62.56	83.32	43.51	7.453	31.89	49.44	30.50	85- 90	40.48	9367
95.0	0.315	24.93	34.07	25.18	0	31.83	48.95	28.14	90- 95	15.92	9383
100.0	0	26.20	36.37	25.11	0	31.47	47.02	27.29	95-100	13.77	9396
105.0	0	24.03	28.87	24.21	0	30.38	37.09	27.84	100-105	13.16	9410
110.0	0	21.79	26.20	21.67	0	27.35	36.49	24.39	105-110	11.49	9421
115.0	0	20.94	25.24	20.88	1.161	27.41	35.88	25.42	110-115	10.66	9432
120.0	0.073	20.27	25.11	21.06	5.638	27.78	37.82	26.26	115-120	10.33	9442
125.0	0	0	0	0	0	0	0	0	120-125	1.021	9443
130.0	0	0	0	0	0	0	0	0	125-130	0	9443
135.0	0	0	0	0	0	0	0	0	130-135	0	9443
140.0	0	0	0	0	0	0	0	0	135-140	0	9443
145.0	0	0	0	0	0	0	0	0	140-145	0	9443
150.0	0	0	0	0	0	0	0	0	145-150	0	9443
155.0	0	0	0	0	0	0	0	0	150-155	0	9443
160.0	0	0	0	0	0	0	0	0	155-160	0	9443
165.0	0	0	0	0	0	0	0	0	160-165	0	9443
170.0	0	0	0	0	0	0	0	0	165-170	0	9443
175.0	0	0	0	0	0	0	0	0	170-175	0	9443
180.0	0	0	0	0	0	0	0	0	175-180	0	9443
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

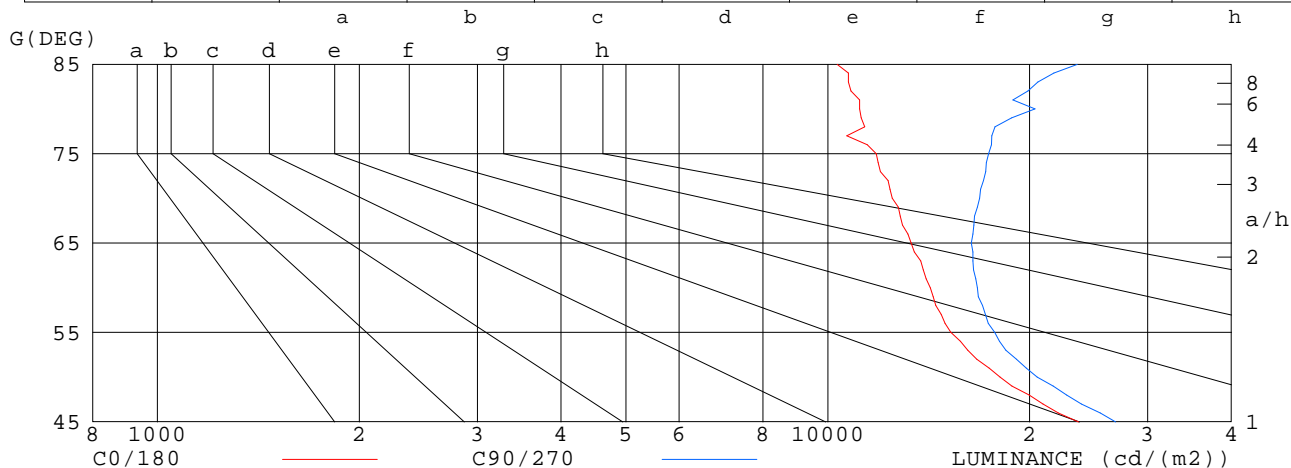
## LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

### LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300



LUMINANCE cd/m2		
G (DEG)	C0/180	C90/270
85	10324	23568
80	11160	20379
75	11812	17380
70	12480	16839
65	13321	16370
60	14226	16721
55	15251	17734
50	18074	20535
45	23665	26881

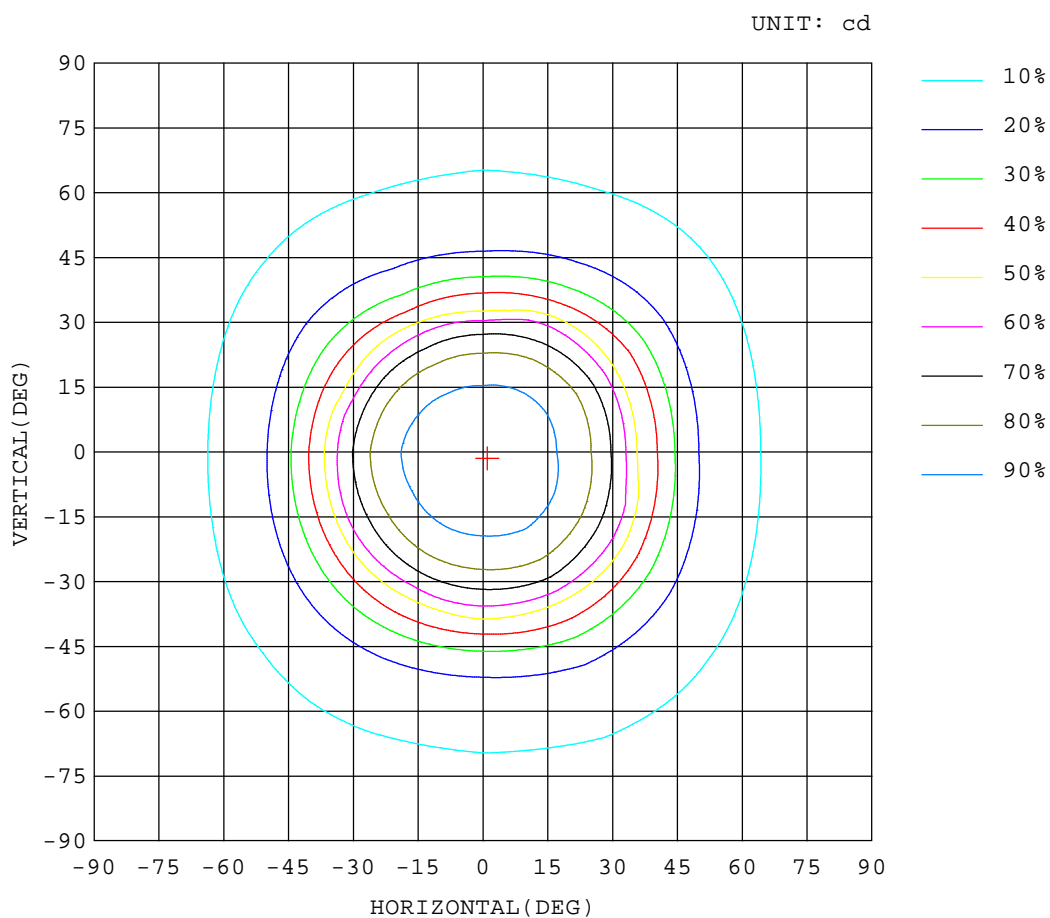
Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



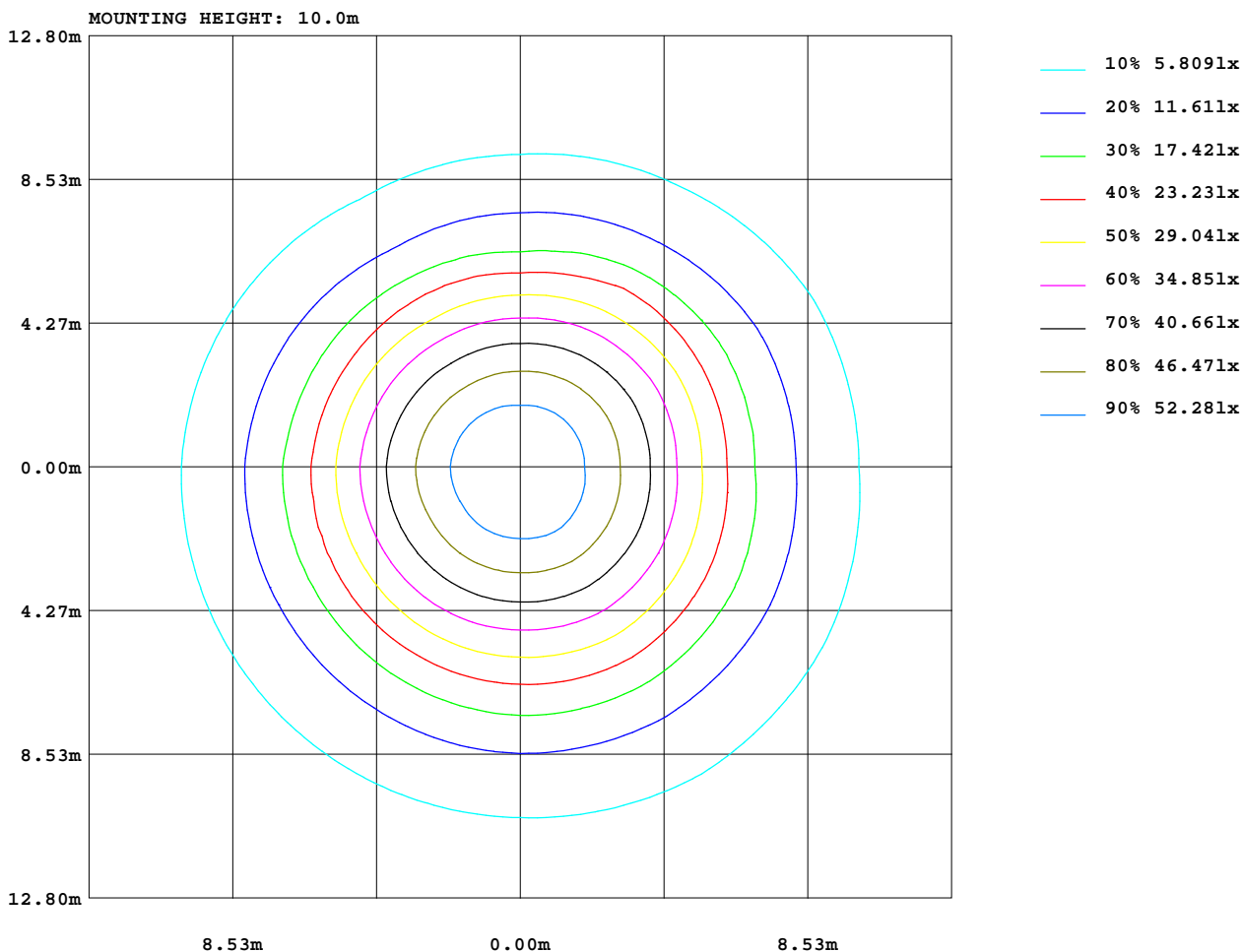
Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

### ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

AREA LUMINOUS FLUX

Report number:

MANUFACTURER:																				
Address:																				
NAME: 90°+60°+90°70W										TYPE:							WEIGHT:			
SPECIFICATION:										DIMENSION: 576*188mm							SERIAL No.:			

VERTICAL (DEG)	AREA FLUX DIAGRAM																		UNIT:lm		Φ t	Φ a
	0.05	0.25	0.58	0.97	1.31	1.61	2.06	2.69	3.23	3.33	2.97	2.47	2.02	1.61	1.17	0.70	0.29	0.05	27.4	0.00		
90	0.09	0.55	1.45	2.65	3.92	5.25	6.79	8.51	9.77	9.97	9.07	7.68	6.10	4.51	3.01	1.64	0.62	0.10	81.7	0.00		
80	0.13	0.92	2.45	4.57	7.34	10.1	12.9	15.5	17.2	17.4	16.0	13.7	10.9	8.04	5.16	2.69	1.00	0.14	147	32.6		
70	0.18	1.28	3.48	6.92	10.8	15.1	19.1	22.5	24.6	24.9	23.3	20.0	15.9	11.4	7.31	3.78	1.36	0.19	213	161		
60	0.22	1.60	4.61	8.85	14.3	20.8	27.4	34.0	38.9	39.9	36.4	29.6	22.2	15.2	9.34	4.82	1.69	0.23	311	281		
50	0.26	1.92	5.50	10.7	18.6	30.1	45.7	63.3	76.8	79.8	70.1	51.3	32.9	19.8	11.4	5.70	2.00	0.27	527	506		
40	0.29	2.20	6.22	12.6	24.1	45.9	77.4	110	129	131	118	84.8	50.7	25.6	13.3	6.47	2.24	0.30	841	825		
30	0.31	2.38	6.78	14.3	30.5	63.8	109	143	158	158	145	114	67.1	31.9	14.8	7.03	2.40	0.32	1069	1055		
20	0.32	2.47	7.09	15.4	35.6	77.3	127	157	171	170	155	126	77.1	36.2	15.6	7.33	2.48	0.33	1184	1171		
10	0.32	2.49	7.12	15.6	36.5	79.9	129	158	173	173	157	128	79.3	37.1	15.8	7.38	2.50	0.33	1202	1189		
0	0.31	2.41	6.87	14.8	32.8	70.7	118	149	164	165	151	120	73.7	34.3	15.3	7.16	2.45	0.33	1128	1115		
-10	0.29	2.26	6.35	13.2	26.7	54.1	93.5	128	144	146	132	99.1	58.6	28.4	13.9	6.67	2.31	0.31	956	940		
-20	0.27	2.02	5.63	11.3	20.6	36.8	61.3	87.0	105	106	92.1	66.5	40.2	22.1	12.1	5.96	2.09	0.28	678	659		
-30	0.23	1.68	4.82	9.31	15.8	24.7	36.1	48.3	57.0	58.2	51.5	39.2	26.5	16.9	10.0	5.12	1.79	0.24	408	382		
-40	0.19	1.34	3.86	7.32	12.0	17.6	23.4	28.0	30.9	31.4	29.3	25.0	18.9	13.0	7.99	4.16	1.46	0.20	256	218		
-50	0.14	0.98	2.68	5.40	8.75	12.5	16.2	19.0	20.7	21.0	19.7	17.2	13.5	9.58	6.00	3.00	1.09	0.15	178	100		
-60	0.09	0.61	1.63	3.16	5.21	7.52	9.80	11.8	13.2	13.4	12.4	10.7	8.38	5.90	3.64	1.91	0.71	0.11	111	0.00		
-70	0.05	0.28	0.69	1.32	2.20	3.19	4.19	5.11	5.88	6.02	5.49	4.79	3.86	2.74	1.71	0.91	0.36	0.06	48.9	0.00		
-80																						
-90																						
HORIZONTAL (DEG)																						
Φ t	3.74	27.7	77.8	159	308	578	920	1191	1342	1355	1226	961	609	325	168	82.4	28.8	3.95	9443			
Φ a	0.00	0.00	12.6	106	260	534	877	1149	1300	1314	1184	919	565	279	117	16.9	0.00	0.00		8633		

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019年08月14日

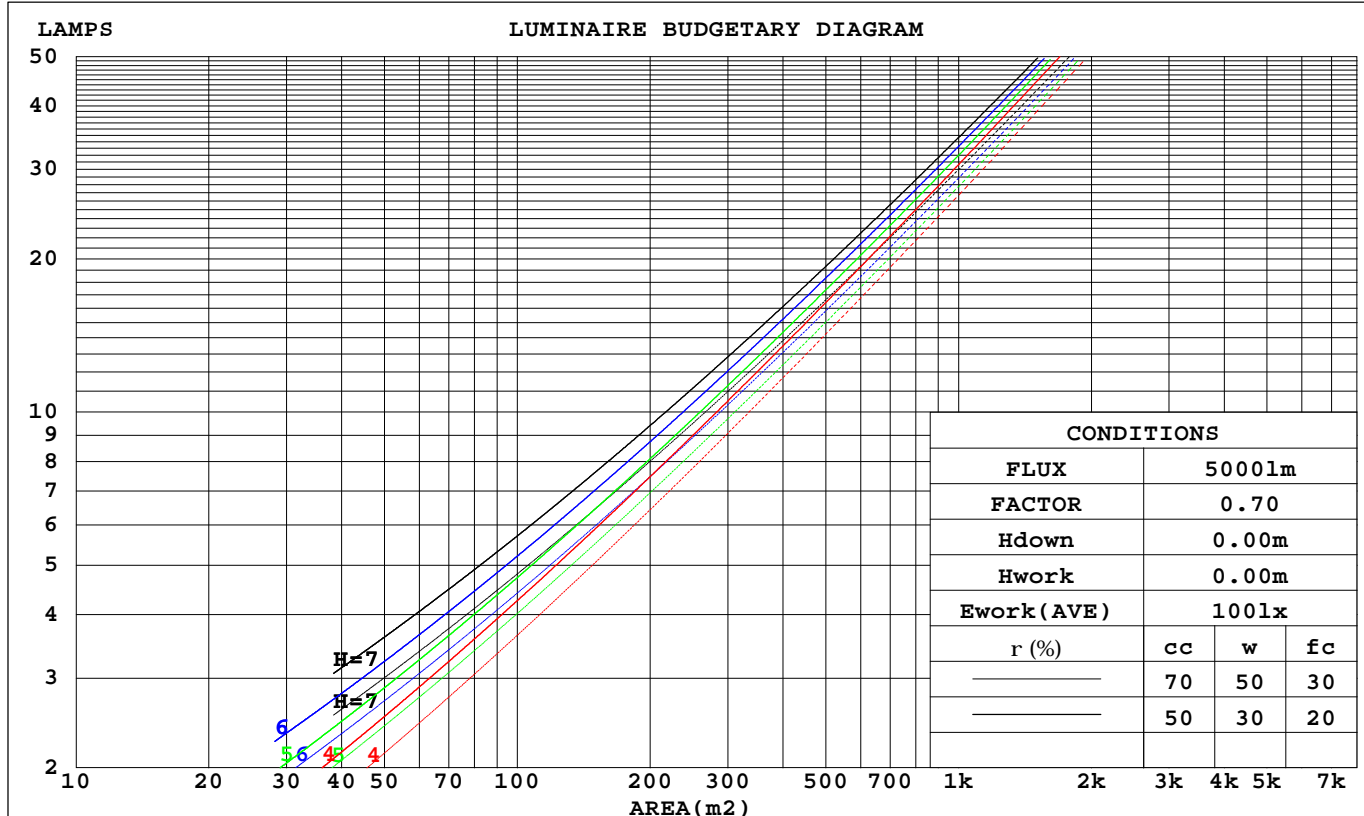
Test Set: 8.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: 90°+60°+90°70W								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 576*188mm				SERIAL No.:			

rcc	80%			70%			50%			30%			10%			0
r w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r fc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:



WEC AND CCEC

Report number:

MANUFACTURER:											
Address:											
NAME: 90°+60°+90°70W						TYPE:			WEIGHT:		
SPECIFICATION:						DIMENSION: 576*188mm			SERIAL No.:		

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	.254	.145	.046	.247	.141	.045	.234	.134	.043	.221	.128	.041	.210	.122	.039															
2.0	.239	.131	.040	.233	.128	.040	.222	.123	.038	.211	.118	.037	.201	.114	.036															
3.0	.224	.119	.036	.218	.117	.035	.208	.113	.034	.199	.109	.033	.190	.105	.033															
4.0	.209	.108	.032	.204	.107	.032	.195	.103	.031	.187	.100	.030	.179	.097	.030															
5.0	.195	.099	.029	.191	.098	.029	.183	.095	.028	.176	.093	.028	.169	.090	.027															
6.0	.183	.092	.026	.179	.091	.026	.172	.088	.026	.166	.086	.025	.159	.084	.025															
7.0	.172	.085	.024	.169	.084	.024	.162	.082	.024	.157	.080	.023	.151	.078	.023															
8.0	.162	.079	.022	.159	.078	.022	.154	.077	.022	.148	.075	.022	.143	.074	.021															
9.0	.153	.074	.021	.151	.073	.021	.146	.072	.020	.141	.071	.020	.136	.069	.020															
10.0	.145	.070	.019	.143	.069	.019	.138	.068	.019	.134	.067	.019	.130	.065	.019															

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	.197	.197	.197	.168	.168	.168	.115	.115	.115	.066	.066	.066	.021	.021	.021	
1.0	.183	.163	.145	.156	.140	.125	.107	.096	.086	.062	.056	.050	.020	.018	.016	
2.0	.172	.138	.111	.147	.119	.096	.101	.082	.067	.058	.048	.039	.019	.016	.013	
3.0	.162	.120	.087	.139	.104	.076	.095	.072	.053	.055	.042	.031	.018	.014	.010	
4.0	.153	.106	.071	.131	.092	.061	.090	.064	.043	.052	.038	.026	.017	.012	.008	
5.0	.145	.096	.059	.125	.083	.051	.086	.058	.036	.050	.034	.021	.016	.011	.007	
6.0	.138	.087	.050	.119	.075	.043	.082	.053	.031	.048	.031	.018	.015	.010	.006	
7.0	.132	.080	.043	.113	.069	.038	.078	.048	.027	.045	.029	.016	.015	.009	.005	
8.0	.126	.074	.038	.108	.064	.033	.075	.045	.024	.044	.026	.014	.014	.009	.005	
9.0	.120	.069	.034	.104	.060	.030	.072	.042	.021	.042	.025	.013	.014	.008	.004	
10.0	.115	.064	.031	.099	.056	.027	.069	.039	.019	.040	.023	.011	.013	.008	.004	

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

## Uncorrected UGR Table

Report number:

MANUFACTURER:											
Address:											
NAME: 90°+60°+90°70W						TYPE:		WEIGHT:			
SPECIFICATION:						DIMENSION: 576*188mm		SERIAL No.:			
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	21.7	23.0	22.0	23.2	23.4	22.3	23.6	22.6	23.8	24.0	
	3H	22.6	23.8	22.9	24.0	24.2	23.5	24.7	23.8	24.9	25.1
	4H	23.0	24.1	23.3	24.4	24.6	24.1	25.2	24.4	25.5	25.8
	6H	23.3	24.4	23.7	24.7	24.9	24.8	25.8	25.1	26.1	26.4
	8H	23.5	24.5	23.8	24.8	25.0	25.0	26.0	25.4	26.3	26.6
	12H	23.5	24.5	23.9	24.8	25.1	25.3	26.3	25.7	26.6	26.9
4H	2H	22.1	23.2	22.4	23.5	23.7	22.7	23.8	23.0	24.0	24.3
	3H	23.3	24.2	23.6	24.5	24.8	24.1	25.1	24.4	25.4	25.7
	4H	23.8	24.7	24.2	25.1	25.4	24.9	25.8	25.3	26.1	26.4
	6H	24.3	25.1	24.7	25.5	25.8	25.7	26.5	26.1	26.8	27.2
	8H	24.5	25.2	24.9	25.6	26.0	26.0	26.8	26.5	27.1	27.5
	12H	24.6	25.3	25.1	25.7	26.1	26.4	27.1	26.8	27.5	27.9
8H	4H	24.2	24.9	24.6	25.3	25.7	25.1	25.8	25.5	26.2	26.6
	6H	24.8	25.4	25.3	25.8	26.3	26.1	26.7	26.5	27.1	27.5
	8H	25.1	25.6	25.6	26.1	26.5	26.6	27.1	27.0	27.5	28.0
	12H	25.3	25.8	25.8	26.3	26.8	27.1	27.5	27.6	28.0	28.5
12H	4H	24.2	24.9	24.7	25.3	25.7	25.1	25.8	25.5	26.2	26.6
	6H	24.9	25.5	25.4	25.9	26.4	26.1	26.7	26.6	27.1	27.6
	8H	25.3	25.7	25.8	26.2	26.7	26.7	27.1	27.2	27.6	28.1
Variations with the observer position at spacings:											
S = 1.0H	+ 0.5 / - 0.5					+ 0.3 / - 0.4					
1.5H	+ 0.5 / - 0.5					+ 0.3 / - 0.4					
2.0H	+ 0.7 / - 0.5					+ 0.6 / - 0.4					

CIE Pub.117 Corrected 9443 lm Total Lamp Luminous Flux.(8log(F/F0) = 7.8)

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

UTILIZATION FACTORS TABLE

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

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) $k(RI) \times RCR = 5$									
$k = 0.60$	70	61	55	69	61	55	68	60	55	50
0.80	79	70	64	78	70	64	77	69	64	58
1.00	86	77	72	85	77	71	83	77	71	65
1.25	92	84	78	90	83	78	88	81	77	71
1.50	96	88	83	94	87	82	91	86	81	75
2.00	101	94	89	99	93	88	96	91	87	80
2.50	104	98	93	102	96	92	98	94	90	83
3.00	106	101	96	104	99	95	100	96	93	85
4.00	109	105	101	107	103	100	103	100	97	89
5.00	111	107	104	109	105	103	104	102	99	91
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

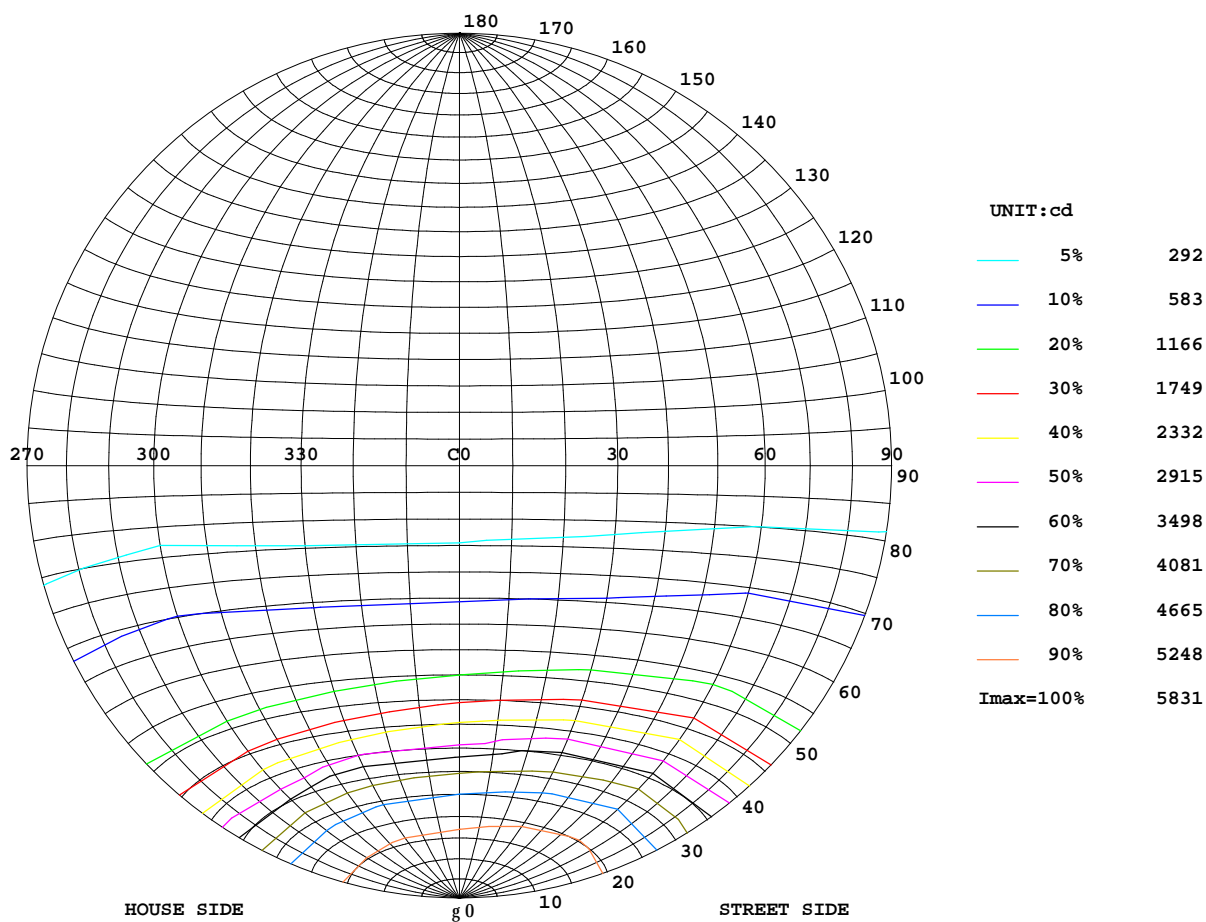
Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

### ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2019年08月14日

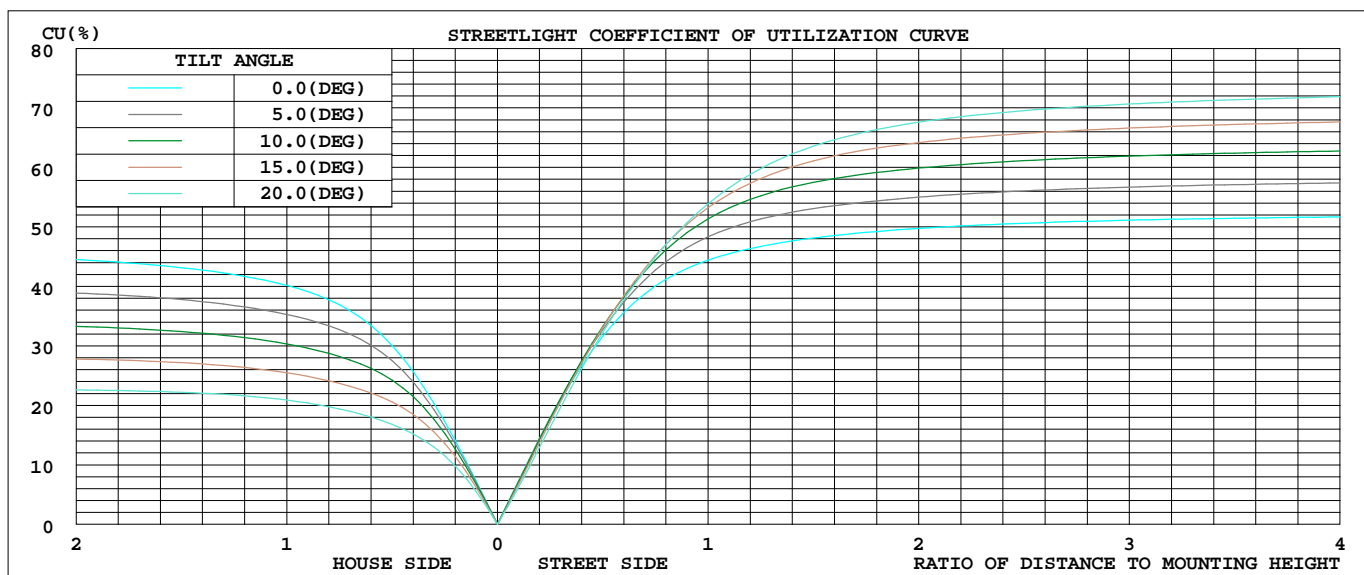
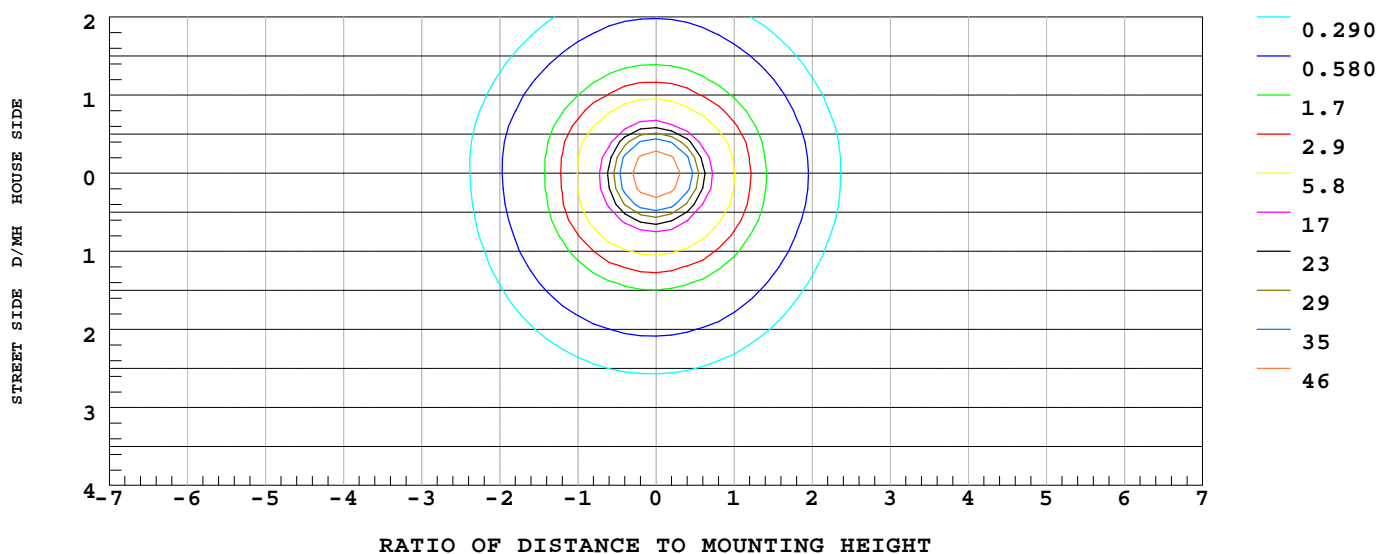
Test Set: 8.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

ILLUMINANCE AT MH=10 m, Enadir = 58.03 lx



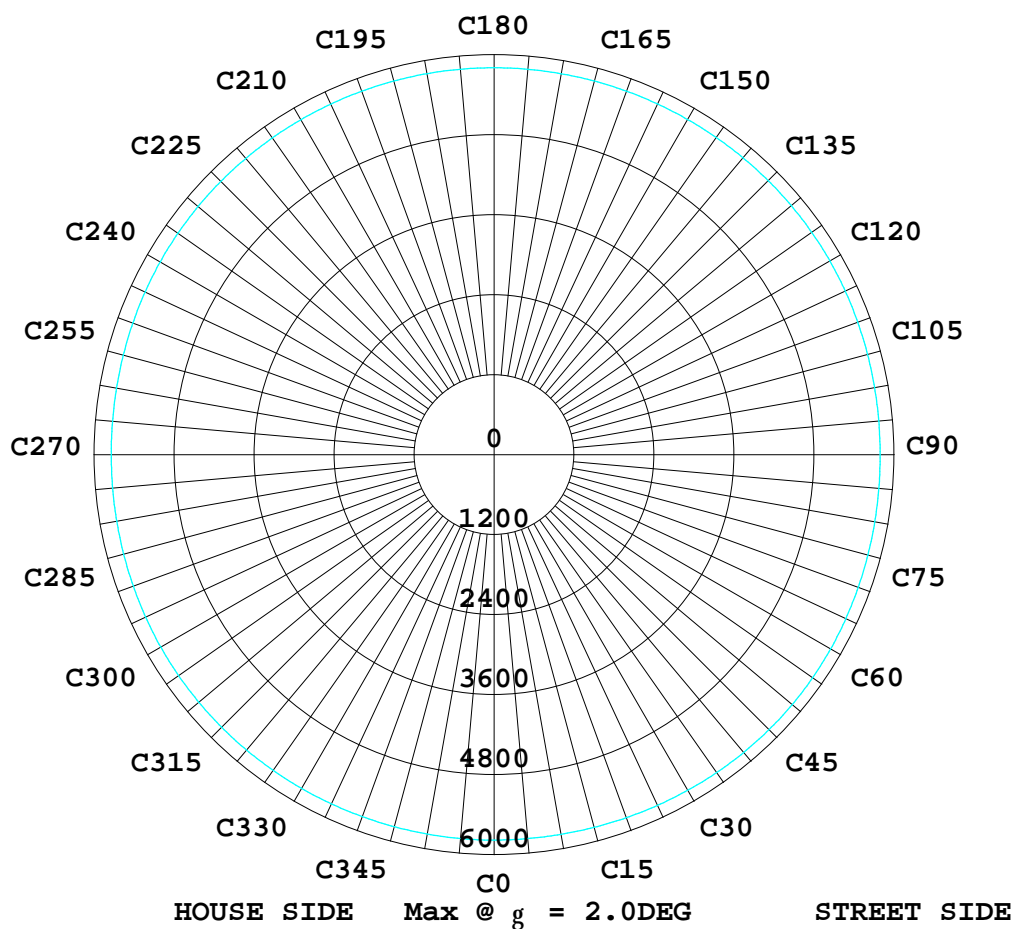
Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°70W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2019年08月14日

Test Set: 8.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks: