

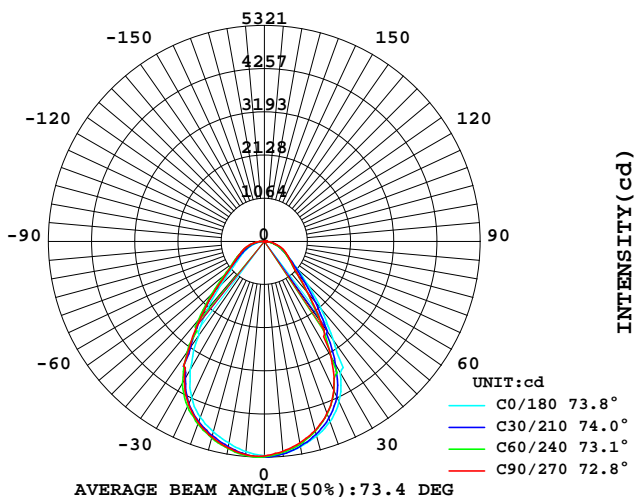
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

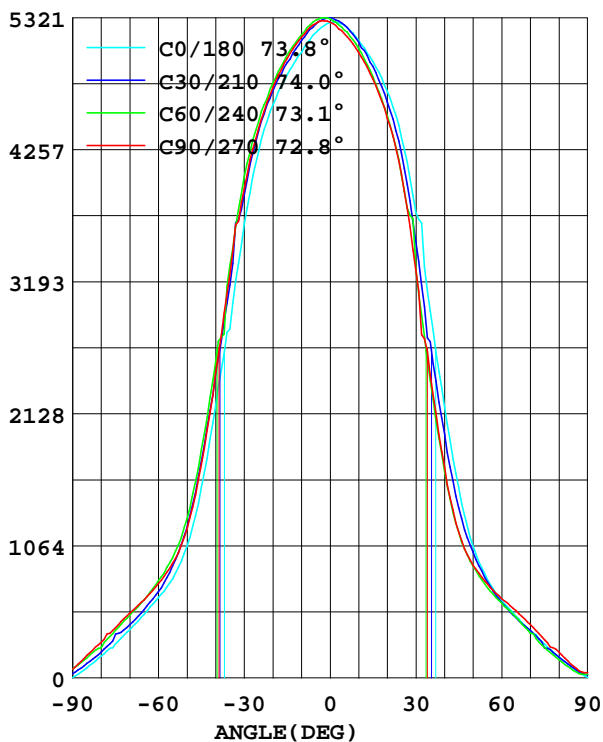
MANUFACTURER:		
Address:		
NAME: 90°+60°+90°64W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

DATA OF LAMP		I _{max} (cd)	5335	S/MH(C0/180)	1.07
MODEL		EFFICIENCY(%)	100.0	S/MH(C90/270)	1.12
NOMINAL POWER(W)	64	TOTAL FLUX(lm)	8644.4	Voltage(V)	218.6
RATED VOLTAGE(V)	218	EFFICIENCY(lm/W)	134.6	Current(A)	0.302
NOMINAL FLUX(lm)	8644.4	h up(%)	0.8	Power(W)	64.23
LAMPS QUANTITY	1	h down(%)	99.2	Power Factor(PF)	0.972
TEST VOLTAGE(V)	218.6	Effective Flux(lm)	7906.7	EEI	0.111

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



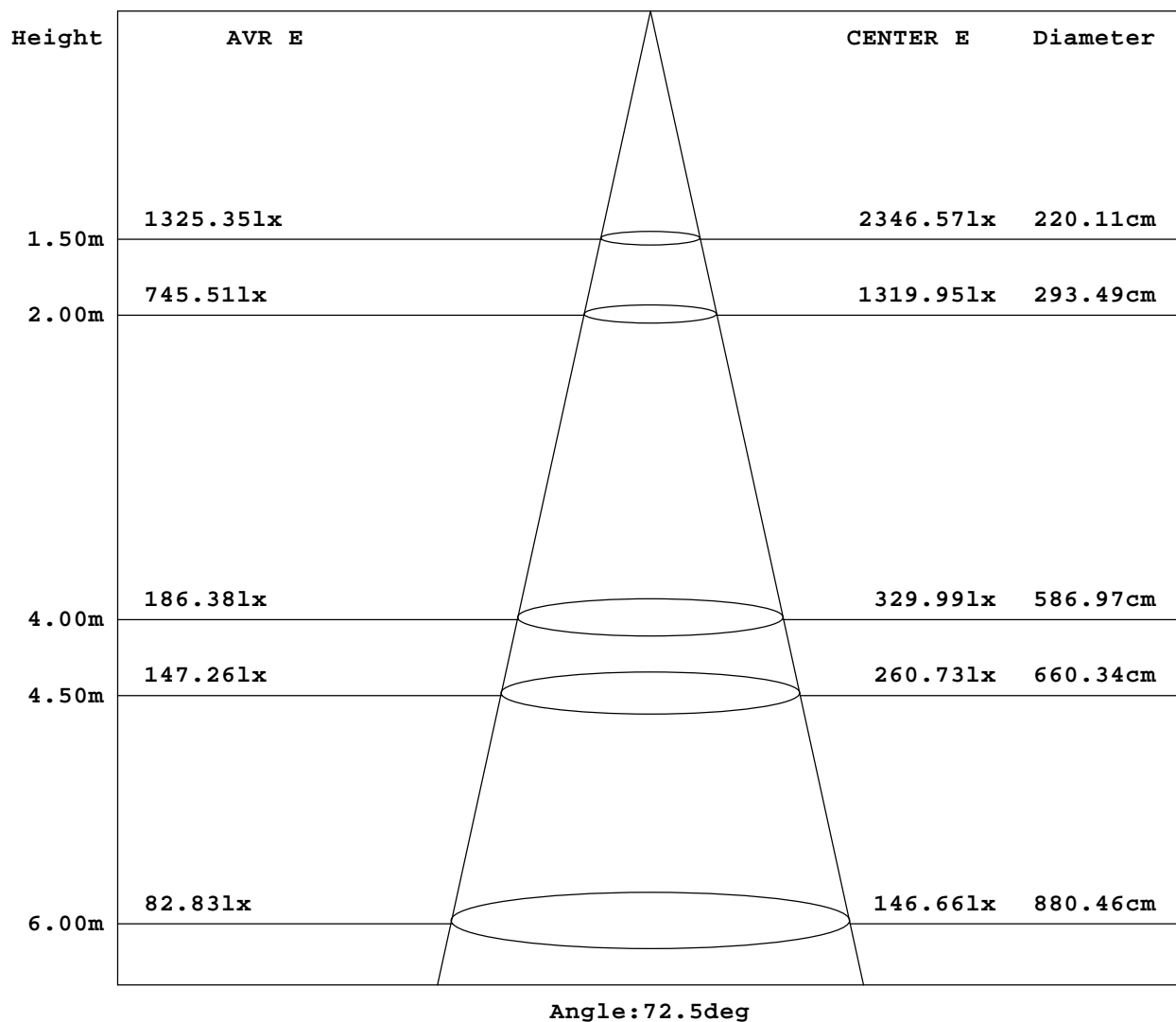
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月14日

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°64W	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°64W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	Zone	tStal
5.0	5199	5284	5273	5303	5260	5240	5192	5235	0- 5	126.2	126.2
10.0	5042	5161	5166	5173	5136	5101	5042	5085	5- 10	370.9	497.1
15.0	4861	4990	4993	4999	4967	4886	4826	4896	10- 15	595.9	1093
20.0	4615	4760	4754	4756	4728	4584	4507	4635	15- 20	791.6	1885
25.0	4241	4447	4432	4406	4356	4139	4061	4249	20- 25	942.4	2827
30.0	3663	3969	3942	3855	3752	3407	3286	3680	25- 30	1016	3843
35.0	2812	3244	3252	3073	2957	2554	2438	2738	30- 35	973.3	4817
40.0	2187	2488	2452	2303	2177	1811	1699	2045	35- 40	835.6	5652
45.0	1538	1796	1721	1639	1535	1273	1176	1423	40- 45	672.3	6325
50.0	1062	1248	1197	1153	1060	957.0	907.2	1023	45- 50	516.7	6842
55.0	799.1	935.8	924.3	874.9	790.9	749.0	756.5	803.6	50- 55	412.3	7254
60.0	648.7	740.7	761.1	690.8	626.3	605.9	639.4	641.9	55- 60	344.7	7599
65.0	512.8	590.3	629.0	552.3	496.8	486.4	542.5	518.1	60- 65	293.2	7892
70.0	388.7	467.5	522.7	430.1	377.9	371.4	429.1	398.4	65- 70	242.5	8135
75.0	277.7	370.2	406.3	318.7	273.5	243.9	307.6	286.7	70- 75	191.5	8326
80.0	176.2	225.5	286.4	209.7	169.7	159.4	210.3	182.5	75- 80	134.9	8461
85.0	80.41	139.1	182.5	114.2	78.23	70.61	95.66	88.52	80- 85	82.75	8544
90.0	5.033	53.61	70.97	36.37	3.944	27.53	43.02	26.14	85- 90	35.75	8580
95.0	0	20.70	29.11	21.12	0	27.47	43.02	24.33	90- 95	13.41	8593
100.0	0	22.15	31.29	21.36	0	26.69	41.81	23.42	95-100	11.84	8605
105.0	0	20.03	24.39	20.58	0	26.32	32.62	23.72	100-105	11.29	8616
110.0	0	17.92	21.97	18.22	0	23.36	32.01	20.40	105-110	9.761	8626
115.0	0	17.19	21.36	17.31	0	23.54	31.89	21.97	110-115	9.019	8635
120.0	0	16.89	21.48	17.25	3.218	23.30	32.86	22.15	115-120	8.664	8644
125.0	0	0	0	0	0	0	0	0	120-125	0.853	8644
130.0	0	0	0	0	0	0	0	0	125-130	0	8644
135.0	0	0	0	0	0	0	0	0	130-135	0	8644
140.0	0	0	0	0	0	0	0	0	135-140	0	8644
145.0	0	0	0	0	0	0	0	0	140-145	0	8644
150.0	0	0	0	0	0	0	0	0	145-150	0	8644
155.0	0	0	0	0	0	0	0	0	150-155	0	8644
160.0	0	0	0	0	0	0	0	0	155-160	0	8644
165.0	0	0	0	0	0	0	0	0	160-165	0	8644
170.0	0	0	0	0	0	0	0	0	165-170	0	8644
175.0	0	0	0	0	0	0	0	0	170-175	0	8644
180.0	0	0	0	0	0	0	0	0	175-180	0	8644
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:

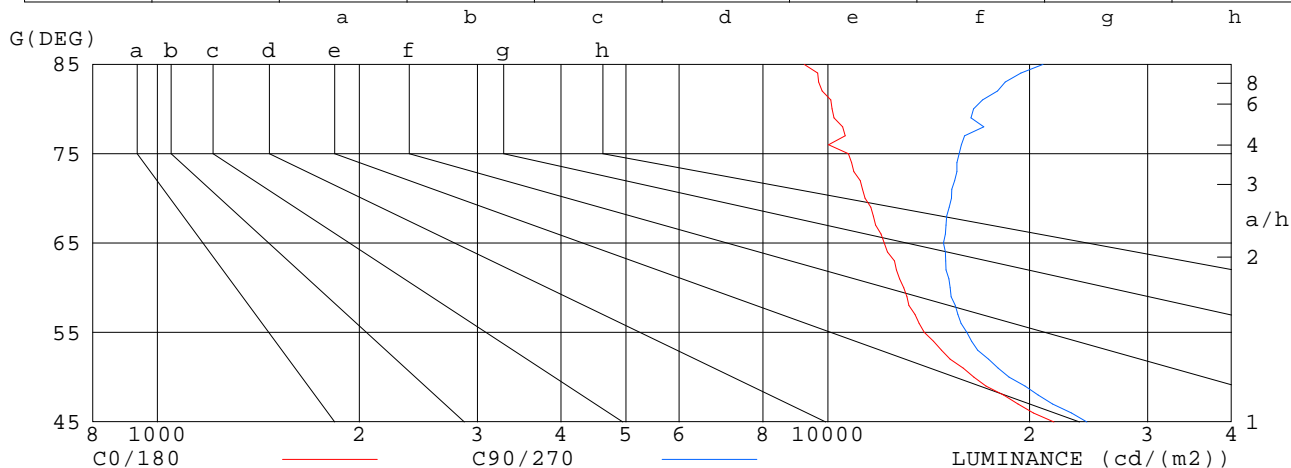
LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°64W	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	9227	20944
80	10150	16498
75	10732	15702
70	11366	15285
65	12136	14884
60	12975	15223
55	13933	16116
50	16525	18630
45	21745	24339

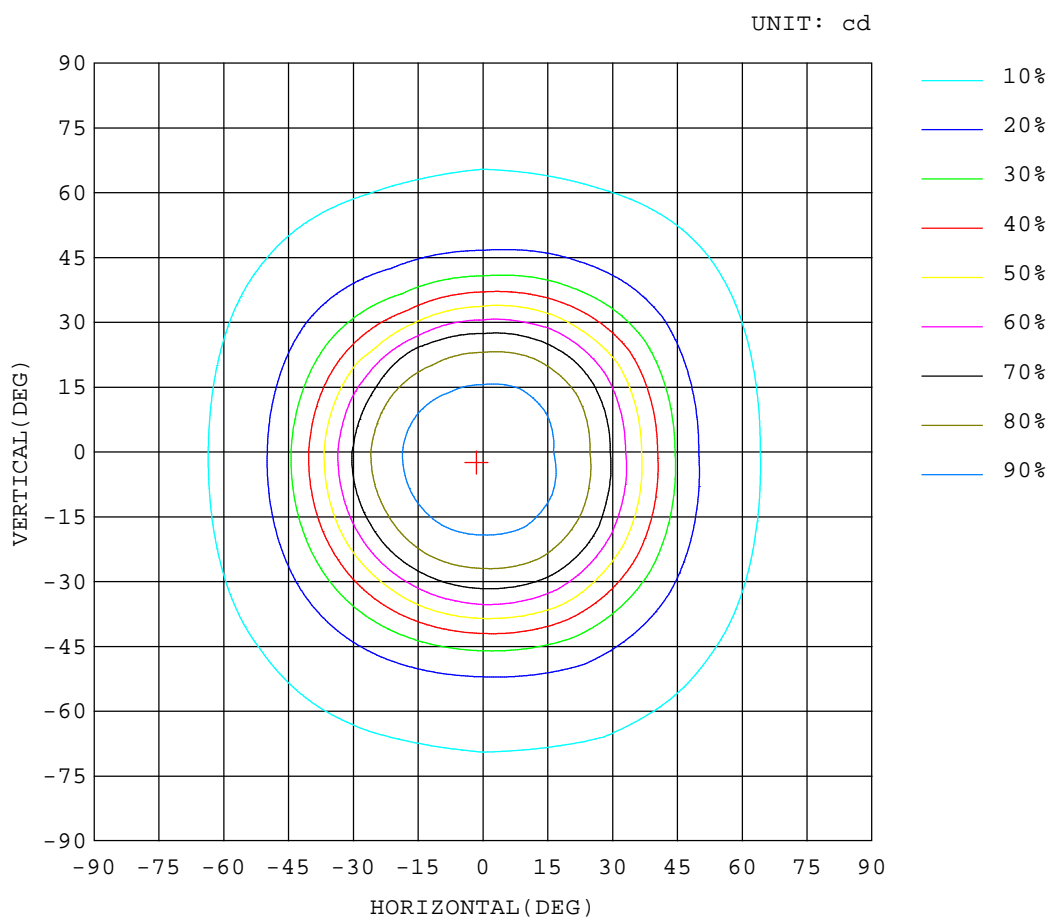
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月14日

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°64W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



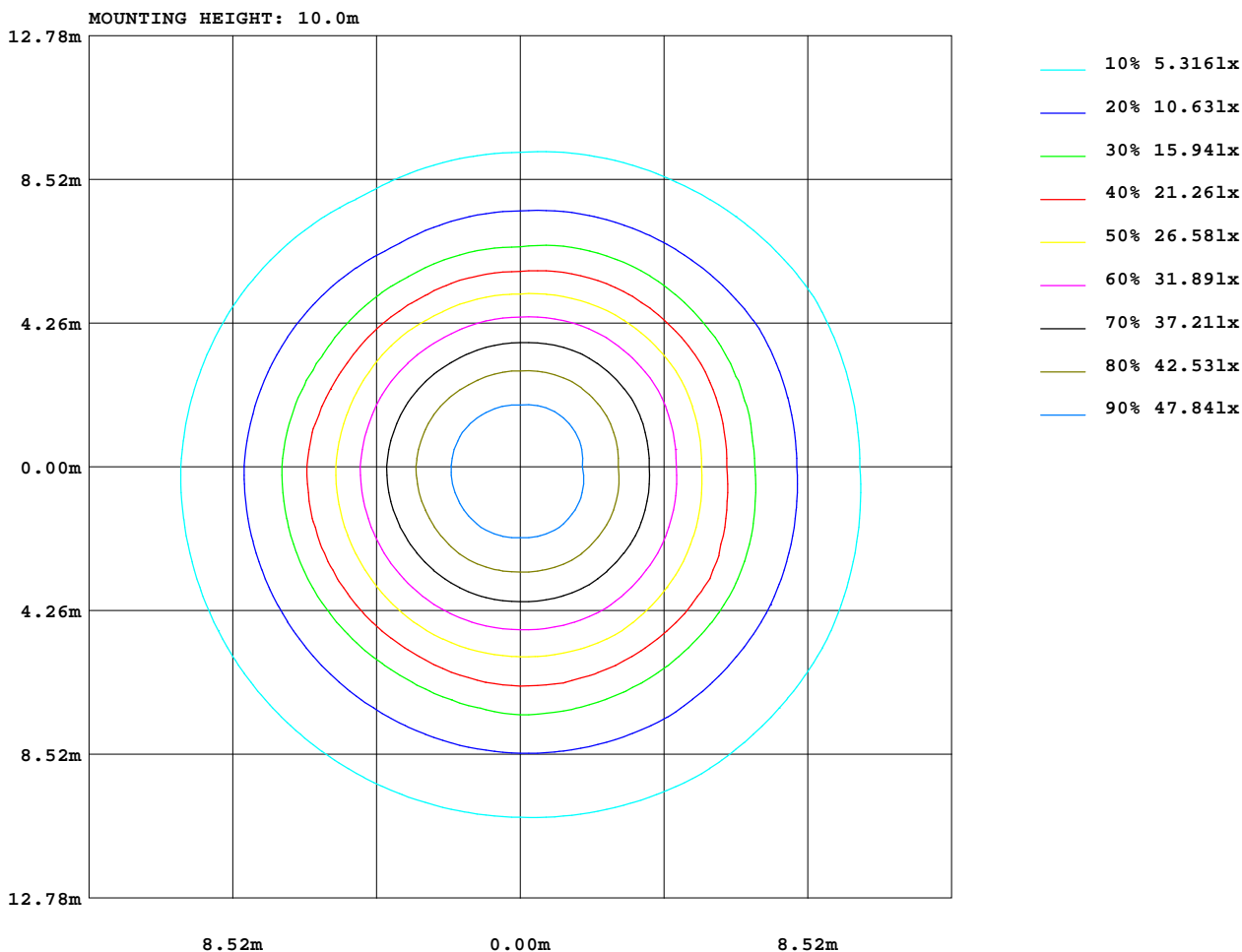
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月14日

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°64W	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°64W										TYPE:							WEIGHT:			
SPECIFICATION:										DIMENSION: 576*188mm							SERIAL No.:			

VERTICAL (DEG)	AREA FLUX DIAGRAM																		UNIT:lm		Φ t	Φ a
	0.04	0.21	0.52	0.87	1.18	1.46	1.87	2.47	2.99	3.08	2.74	2.28	1.85	1.47	1.06	0.62	0.25	0.04	25.0	0.00		
90	0.07	0.50	1.32	2.43	3.64	4.84	6.25	7.87	9.07	9.26	8.43	7.12	5.59	4.14	2.77	1.50	0.56	0.08	75.5	0.00		
80	0.12	0.83	2.26	4.23	6.72	9.33	11.9	14.3	15.9	16.1	14.8	12.7	10.1	7.37	4.63	2.46	0.91	0.13	135	31.5		
70	0.16	1.16	3.19	6.33	9.94	13.9	17.5	20.7	22.7	23.0	21.5	18.5	14.7	10.5	6.71	3.41	1.25	0.17	196	150		
60	0.20	1.47	4.18	8.11	13.1	19.2	25.3	31.5	36.1	37.1	33.9	27.4	20.5	14.0	8.59	4.39	1.55	0.21	287	261		
50	0.23	1.74	5.01	9.89	17.1	27.8	42.3	58.9	71.7	74.2	65.3	47.8	30.4	18.3	10.4	5.22	1.82	0.24	489	470		
40	0.26	1.98	5.68	11.6	22.2	42.4	71.9	102	119	121	108	78.6	47.1	23.6	12.2	5.91	2.04	0.27	777	762		
30	0.28	2.14	6.17	13.1	28.0	59.1	101	131	144	145	133	104	62.4	29.3	13.5	6.42	2.20	0.29	983	970		
20	0.29	2.23	6.45	14.0	32.6	71.5	116	143	156	156	142	115	71.1	33.2	14.3	6.69	2.27	0.30	1084	1072		
10	0.29	2.24	6.48	14.2	33.4	73.7	118	145	158	158	143	116	72.9	34.0	14.5	6.72	2.28	0.30	1099	1087		
0	0.28	2.17	6.25	13.5	30.0	64.6	108	137	150	150	137	110	67.2	31.3	13.9	6.53	2.24	0.29	1031	1019		
-10	0.26	2.02	5.78	12.1	24.4	49.6	85.1	117	132	133	120	89.7	53.5	25.9	12.7	6.07	2.11	0.28	871	857		
-20	0.24	1.80	5.13	10.3	18.8	33.6	56.1	79.0	95.1	96.7	83.5	60.8	36.6	20.1	11.0	5.42	1.91	0.25	617	600		
-30	0.20	1.52	4.35	8.49	14.4	22.5	32.8	43.9	51.7	52.8	46.7	35.6	24.1	15.4	9.12	4.67	1.63	0.22	371	347		
-40	0.16	1.21	3.44	6.67	11.0	16.1	21.3	25.5	28.1	28.5	26.6	22.8	17.2	11.8	7.28	3.80	1.32	0.18	233	198		
-50	0.12	0.88	2.43	4.81	7.91	11.3	14.7	17.3	18.9	19.1	17.9	15.6	12.2	8.73	5.44	2.71	0.98	0.14	162	88.2		
-60	0.08	0.54	1.46	2.85	4.73	6.81	8.88	10.7	11.9	12.1	11.2	9.65	7.59	5.32	3.28	1.71	0.63	0.09	99.7	0.00		
-70	0.04	0.23	0.59	1.16	1.94	2.83	3.73	4.55	5.21	5.33	4.93	4.33	3.46	2.43	1.51	0.79	0.30	0.05	43.4	0.00		
-80																						
-90																						
HORIZONTAL (DEG)																						
Φ t	3.32	24.9	70.7	145	282	531	843	1092	1230	1241	1121	879	559	298	153	75.1	26.2	3.52	8644			
Φ a	0.00	0.00	11.0	97.1	239	491	804	1054	1191	1202	1083	840	519	255	107	15.3	0.00	0.00			7907	

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

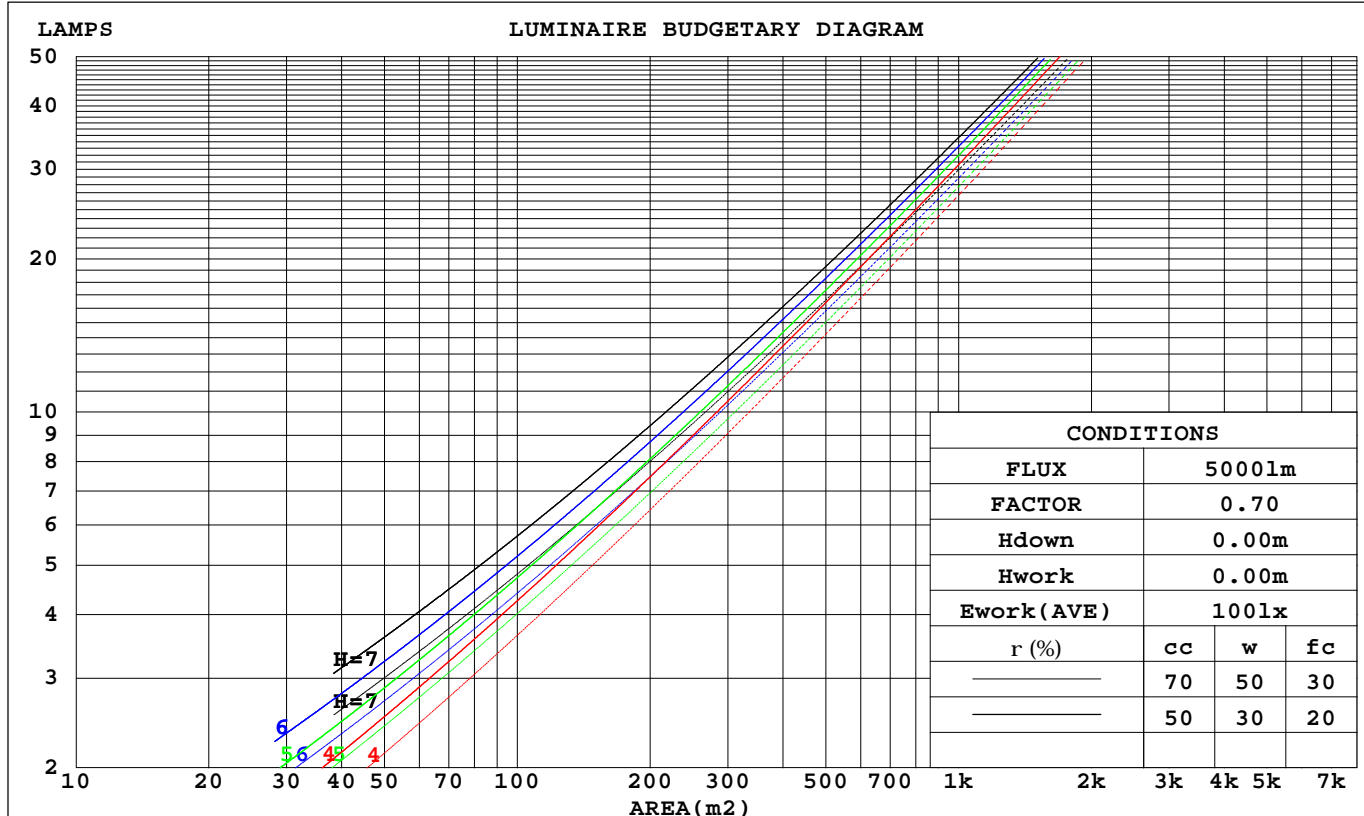
Test Set: 8.0deg/s C-Gamma (TYPE C)
 Humidity:65.0%
 Test Distance:11.000 m
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: 90°+60°+90°64W								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
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°64W						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	.144	.046	.247	.141	.045	.233	.134	.043	.221	.127	.041	.210	.122	.039															
2.0	.239	.131	.040	.233	.128	.040	.221	.123	.038	.211	.118	.037	.201	.114	.036															
3.0	.223	.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	.160	.084	.025															
7.0	.172	.085	.024	.169	.084	.024	.163	.082	.024	.157	.080	.023	.151	.079	.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	.196	.196	.196	.168	.168	.168	.114	.114	.114	.066	.066	.066	.021	.021	.021	
1.0	.182	.162	.145	.156	.139	.124	.107	.096	.086	.061	.055	.050	.020	.018	.016	
2.0	.171	.138	.110	.146	.119	.095	.100	.082	.066	.058	.048	.039	.019	.015	.013	
3.0	.161	.120	.087	.138	.103	.075	.095	.072	.053	.055	.042	.031	.018	.014	.010	
4.0	.153	.106	.070	.131	.092	.061	.090	.064	.043	.052	.037	.025	.017	.012	.008	
5.0	.145	.095	.058	.124	.082	.051	.086	.057	.036	.050	.034	.021	.016	.011	.007	
6.0	.138	.086	.049	.118	.075	.043	.082	.052	.030	.047	.031	.018	.015	.010	.006	
7.0	.131	.079	.043	.113	.069	.037	.078	.048	.026	.045	.028	.016	.015	.009	.005	
8.0	.125	.073	.038	.108	.064	.033	.075	.045	.023	.043	.026	.014	.014	.009	.005	
9.0	.120	.068	.034	.103	.059	.029	.071	.042	.021	.042	.025	.012	.013	.008	.004	
10.0	.115	.064	.030	.099	.056	.026	.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°64W					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	21.4	22.7	21.7	22.9	23.1	22.0	23.2	22.2	23.4	23.6	
	3H	22.3	23.4	22.6	23.7	23.9	23.1	24.3	23.4	24.5	24.8
	4H	22.7	23.8	23.0	24.0	24.3	23.8	24.9	24.1	25.1	25.4
	6H	23.0	24.1	23.4	24.3	24.6	24.4	25.4	24.7	25.7	26.0
	8H	23.1	24.1	23.5	24.4	24.7	24.6	25.6	25.0	25.9	26.2
	12H	23.2	24.2	23.6	24.5	24.8	24.9	25.9	25.2	26.2	26.5
4H	2H	21.8	22.9	22.1	23.2	23.4	22.3	23.4	22.6	23.6	23.9
	3H	22.9	23.9	23.3	24.2	24.5	23.7	24.7	24.1	25.0	25.3
	4H	23.5	24.4	23.9	24.7	25.1	24.5	25.4	24.9	25.7	26.1
	6H	24.0	24.8	24.4	25.1	25.5	25.3	26.1	25.7	26.4	26.8
	8H	24.2	24.9	24.6	25.3	25.7	25.6	26.4	26.1	26.7	27.1
	12H	24.3	25.0	24.7	25.4	25.8	26.0	26.7	26.4	27.1	27.5
8H	4H	23.9	24.6	24.3	24.9	25.3	24.7	25.5	25.2	25.8	26.2
	6H	24.5	25.1	24.9	25.5	25.9	25.7	26.3	26.1	26.7	27.1
	8H	24.8	25.3	25.2	25.7	26.2	26.2	26.7	26.6	27.1	27.6
	12H	25.0	25.5	25.5	25.9	26.4	26.7	27.1	27.2	27.6	28.1
12H	4H	23.9	24.6	24.3	24.9	25.4	24.7	25.4	25.2	25.8	26.2
	6H	24.6	25.1	25.1	25.6	26.0	25.7	26.3	26.2	26.7	27.2
	8H	24.9	25.4	25.4	25.9	26.3	26.3	26.7	26.8	27.2	27.7
Variations with the observer position at spacings:											
S = 1.0H	+ 0.4 / - 0.5					+ 0.3 / - 0.4					
1.5H	+ 0.5 / - 0.5					+ 0.4 / - 0.3					
2.0H	+ 0.7 / - 0.6					+ 0.5 / - 0.3					

CIE Pub.117 Corrected 8644 lm Total Lamp Luminous Flux. ($8\log(F/F_0) = 7.5$)

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°64W	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	82	77	71
1.50	96	88	83	94	87	82	92	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		

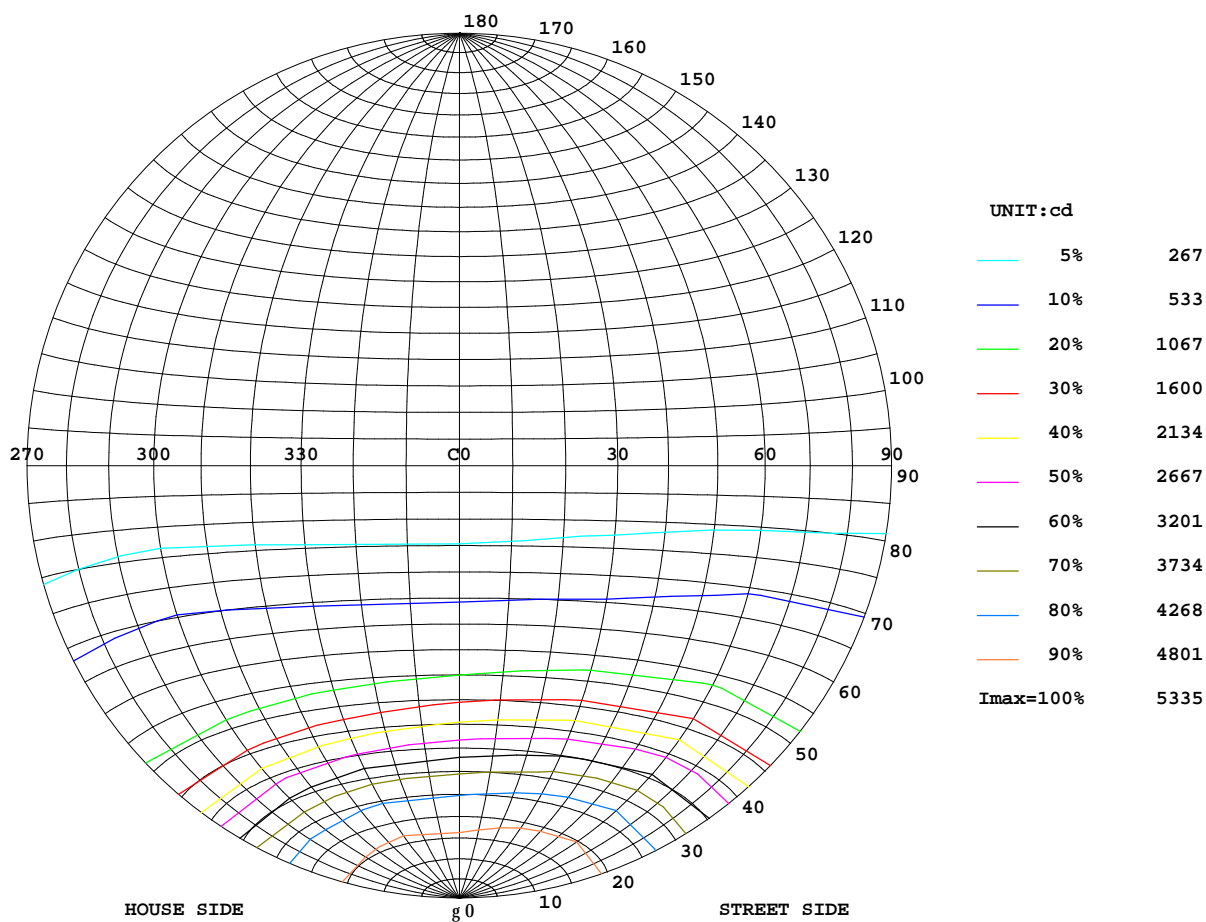
Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2019年08月14日

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°64W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



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

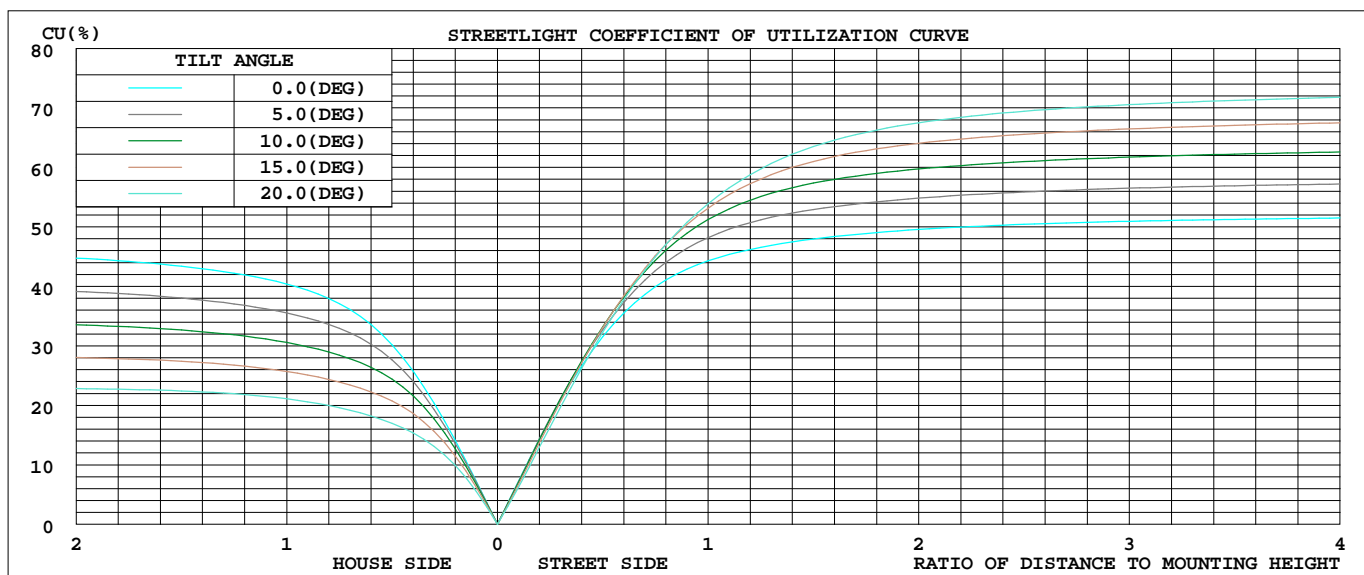
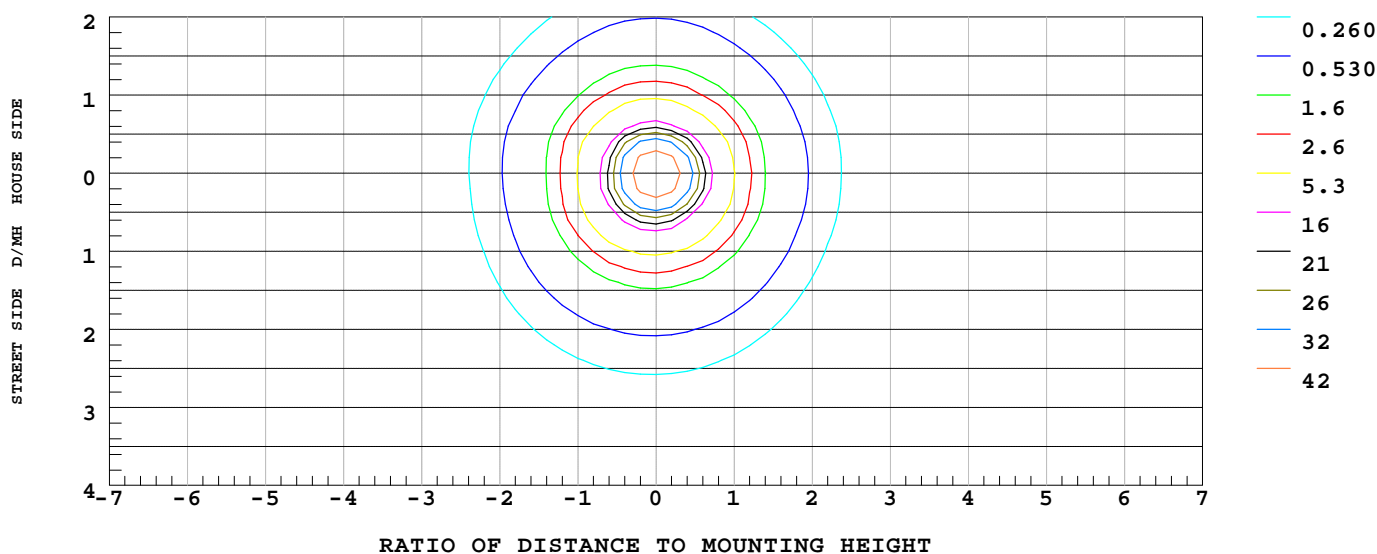
Test Set: 8.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 90°+60°+90°64W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

ILLUMINANCE AT MH=10 m, Enadir = 52.80 lx



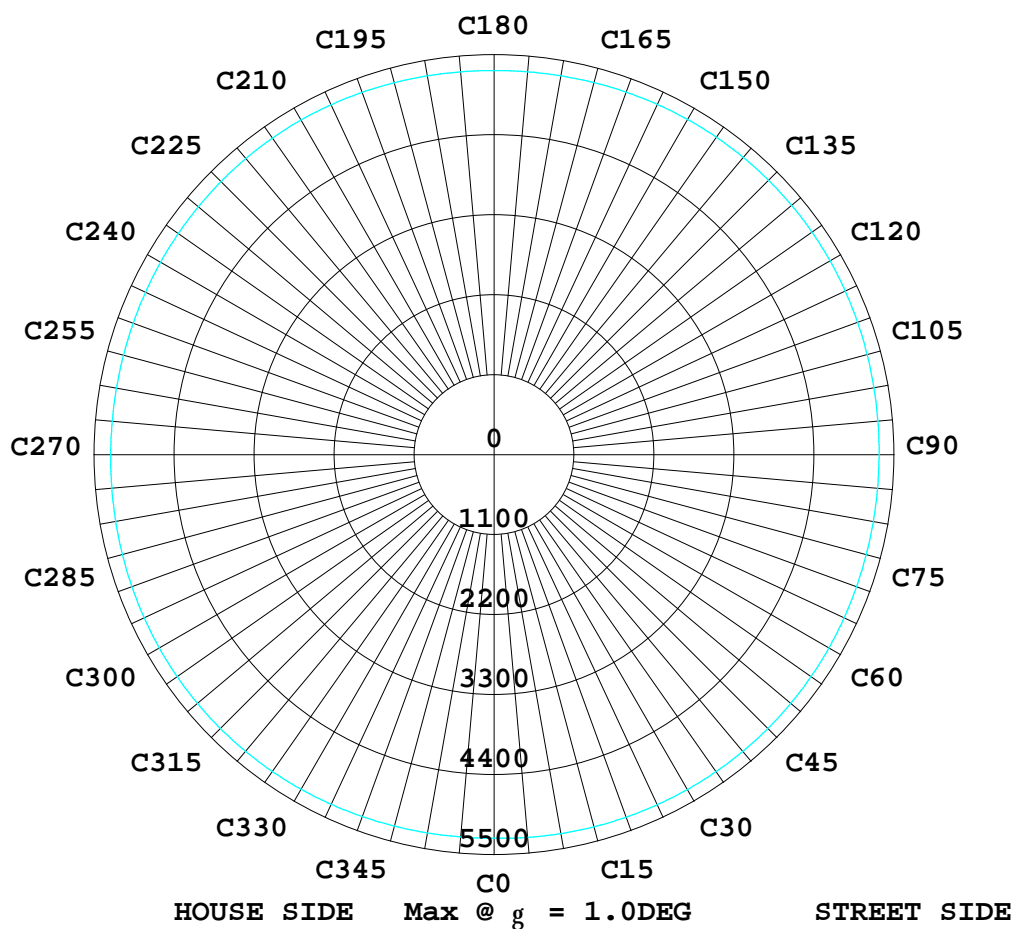
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月14日

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°64W	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: