

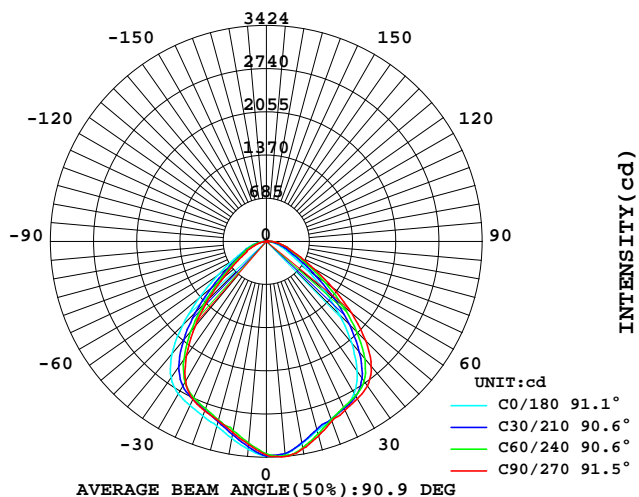
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

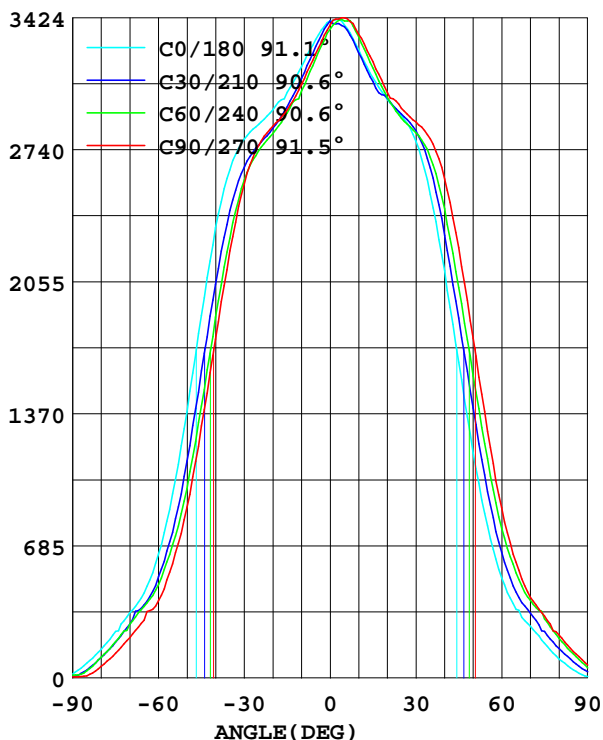
MANUFACTURER:		
Address:		
NAME: 90°50W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

DATA OF LAMP		I _{max} (cd)	3424	S/MH(C0/180)	1.23
MODEL		EFFICIENCY(%)	100.0	S/MH(C90/270)	1.14
NOMINAL POWER(W)	50	TOTAL FLUX(lm)	6960.9	Voltage(V)	218.6
RATED VOLTAGE(V)	218	EFFICIENCY(lm/W)	141.6	Current(A)	0.234
NOMINAL FLUX(lm)	6960.9	h up(%)	0.3	Power(W)	49.16
LAMPS QUANTITY	1	h down(%)	99.7	Power Factor(PF)	0.958
TEST VOLTAGE(V)	218.7	Effective Flux(lm)	6598.5	EEI	0.101

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



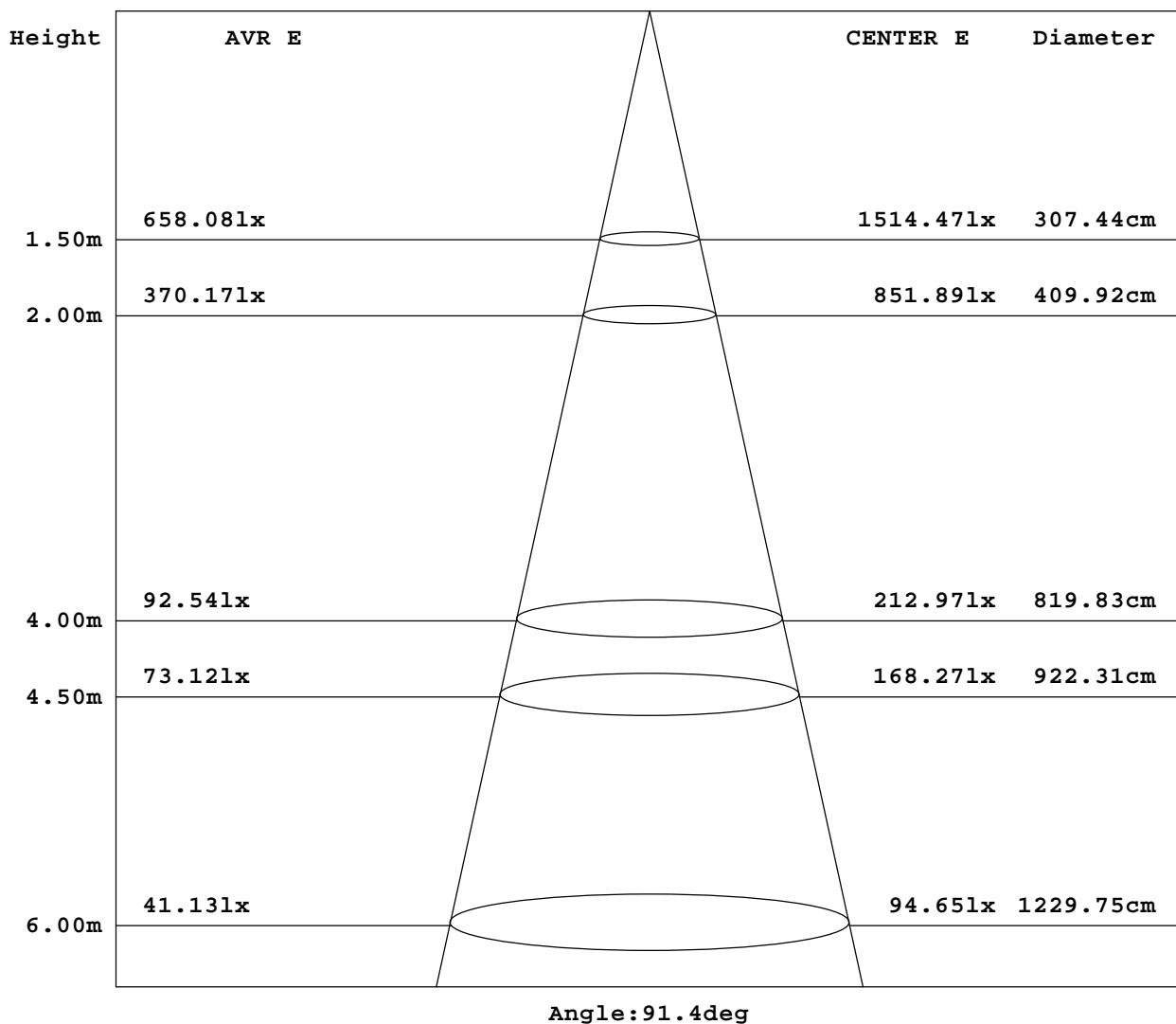
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月10日

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°50W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



Test System: HOPOO HPG1800
 Temperature: 25.3DEG
 Operators:
 Test Date: 2019年08月10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°50W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	Zone	tStal
5.0	3311	3242	3238	3266	3386	3392	3424	3373	0- 5	80.07	80.07
10.0	3171	3077	3079	3127	3259	3285	3338	3285	5- 10	233.2	313.3
15.0	3037	2947	2946	3020	3112	3128	3196	3153	10- 15	370.9	684.2
20.0	2946	2837	2861	2930	3000	3008	3036	3029	15- 20	495.2	1179
25.0	2871	2749	2762	2834	2915	2913	2954	2934	20- 25	609.7	1789
30.0	2795	2616	2562	2644	2785	2834	2884	2860	25- 30	710.6	2500
35.0	2635	2352	2214	2294	2507	2673	2796	2754	30- 35	778.4	3278
40.0	2335	1956	1757	1829	2112	2364	2587	2513	35- 40	786.5	4065
45.0	1879	1502	1307	1364	1637	1946	2232	2104	40- 45	725.0	4790
50.0	1378	1053	885.0	946.5	1167	1483	1762	1594	45- 50	607.9	5398
55.0	956.0	722.9	592.1	634.4	789.4	1052	1279	1118	50- 55	467.9	5866
60.0	642.4	504.5	401.5	430.7	521.2	716.1	883.2	750.9	55- 60	340.3	6206
65.0	440.8	374.7	300.0	294.8	356.2	495.8	599.2	510.8	60- 65	245.7	6452
70.0	337.1	278.4	208.4	212.2	268.6	369.0	418.2	359.5	65- 70	182.7	6635
75.0	241.5	187.0	129.1	131.9	179.8	273.7	320.9	257.7	70- 75	135.4	6770
80.0	148.0	107.4	60.33	63.83	99.05	179.7	222.8	175.8	75- 80	91.92	6862
85.0	77.99	38.91	11.44	11.26	43.02	104.4	136.5	97.35	80- 85	52.76	6915
90.0	21.48	11.14	6.364	0.883	7.211	42.84	67.83	35.64	85- 90	22.93	6938
95.0	6.485	10.17	5.033	0.339	5.396	15.25	22.57	1.730	90- 95	7.650	6945
100.0	6.001	9.692	5.517	0.339	6.122	13.08	14.59	0	95-100	3.744	6949
105.0	4.670	6.969	5.638	0.460	6.364	9.450	12.17	0	100-105	3.181	6952
110.0	4.549	6.001	5.033	0.823	6.606	10.23	11.08	0	105-110	2.705	6955
115.0	4.670	7.635	6.243	0.944	6.243	11.02	9.389	0.702	110-115	2.723	6958
120.0	3.702	9.329	7.695	0.520	8.905	11.87	9.631	0.944	115-120	2.882	6961
125.0	0	0	0	0	0	0	0	0	120-125	0.296	6961
130.0	0	0	0	0	0	0	0	0	125-130	0	6961
135.0	0	0	0	0	0	0	0	0	130-135	0	6961
140.0	0	0	0	0	0	0	0	0	135-140	0	6961
145.0	0	0	0	0	0	0	0	0	140-145	0	6961
150.0	0	0	0	0	0	0	0	0	145-150	0	6961
155.0	0	0	0	0	0	0	0	0	150-155	0	6961
160.0	0	0	0	0	0	0	0	0	155-160	0	6961
165.0	0	0	0	0	0	0	0	0	160-165	0	6961
170.0	0	0	0	0	0	0	0	0	165-170	0	6961
175.0	0	0	0	0	0	0	0	0	170-175	0	6961
180.0	0	0	0	0	0	0	0	0	175-180	0	6961
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2019年08月10日

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

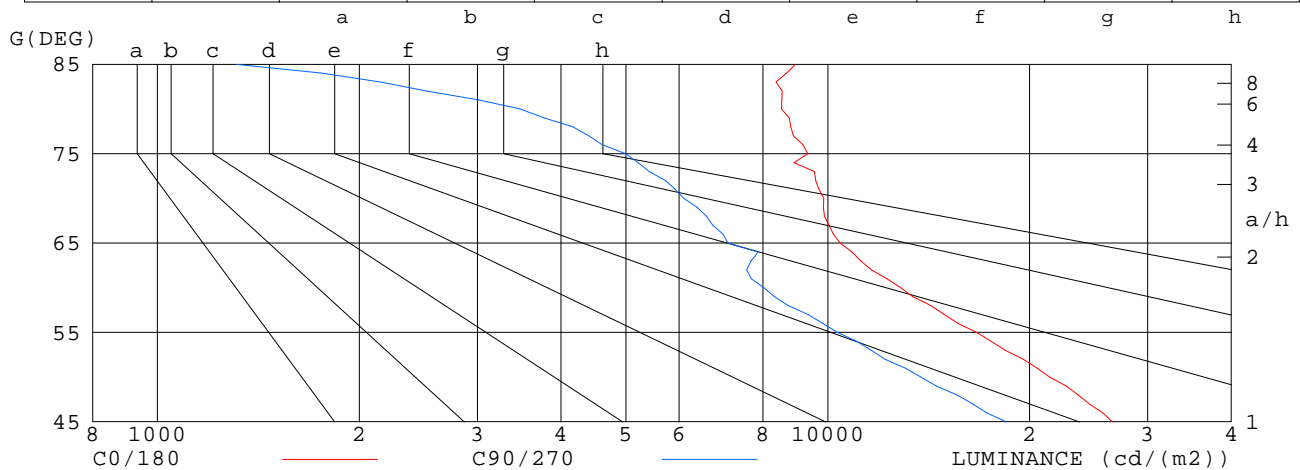
LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:		
Address:		
NAME: 90°50W	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	8949	1313
80	8526	3474
75	9334	4991
70	9858	6094
65	10432	7099
60	12849	8031
55	16669	10323
50	21438	13769
45	26579	18484

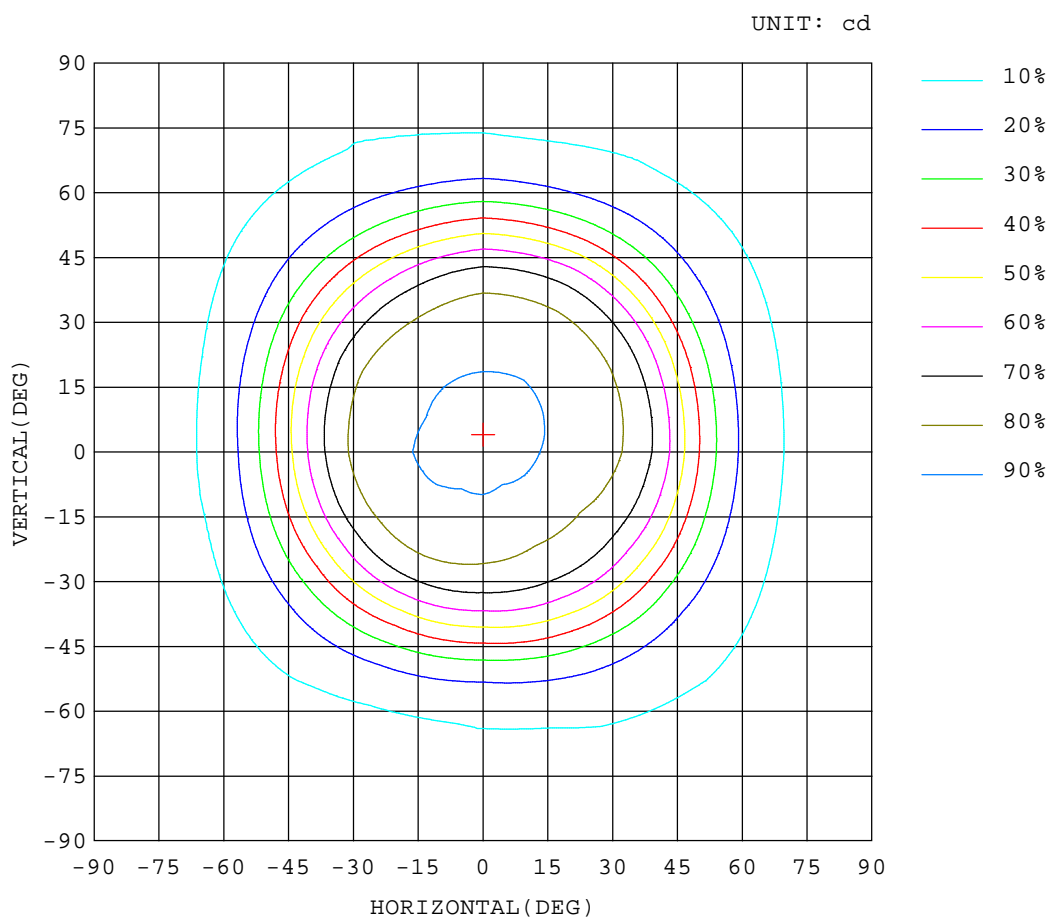
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月10日

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°50W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



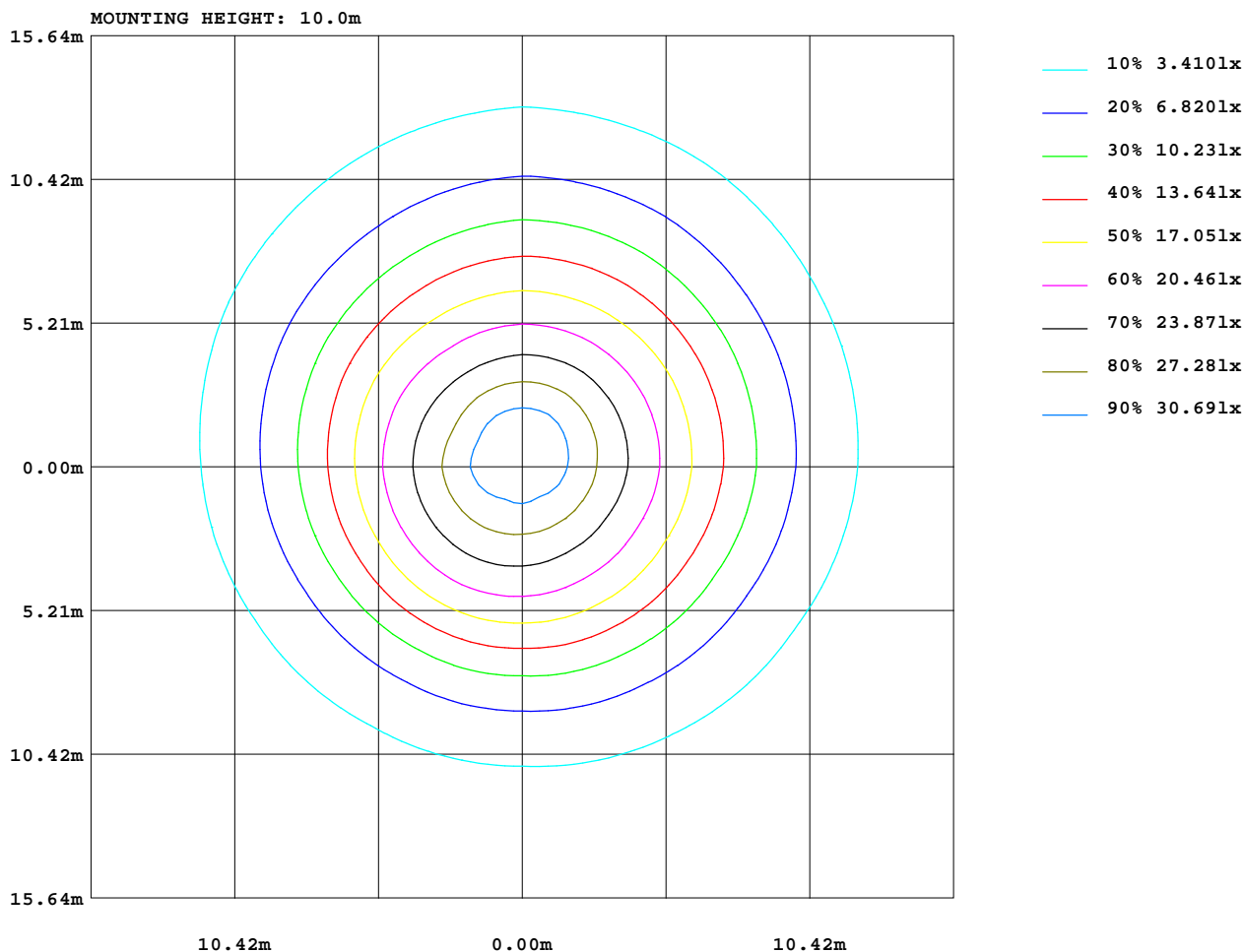
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月10日

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°50W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月10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°50W										TYPE:					WEIGHT:				
SPECIFICATION:										DIMENSION: 576*188mm					SERIAL No.:				

VERTICAL (DEG)	AREA FLUX DIAGRAM																		UNIT:lm		Φ t	Φ a
	90	80	70	60	50	40	30	20	10	0	10	20	30	40	50	60	70	80	90			
	0.04	0.23	0.60	1.15	1.85	2.64	3.34	3.84	4.18	4.09	3.58	2.94	2.30	1.71	1.15	0.68	0.31	0.08	34.7	0.00		
	0.06	0.42	1.21	2.44	4.08	6.00	7.75	8.87	9.52	9.35	8.37	6.95	5.45	3.99	2.57	1.38	0.56	0.11	79.1	16.8		
	0.08	0.64	1.90	3.96	6.73	9.85	13.1	16.0	18.1	18.0	15.8	12.7	9.51	6.57	4.12	2.19	0.83	0.14	141	114		
	0.11	0.85	2.65	5.59	9.78	16.1	24.1	32.1	37.8	38.1	32.9	24.9	16.6	10.2	5.87	2.97	1.09	0.17	262	248		
	0.13	1.06	3.38	7.30	14.8	27.3	42.4	55.9	64.8	65.8	58.6	45.3	29.1	15.8	8.05	3.78	1.35	0.20	446	436		
	0.14	1.25	3.99	9.53	21.8	41.1	60.9	75.4	82.8	83.5	78.1	65.0	44.3	23.6	10.6	4.57	1.57	0.23	609	602		
	0.16	1.39	4.49	11.9	28.9	52.8	73.1	83.5	88.7	89.2	84.7	75.3	56.8	31.8	13.5	5.25	1.75	0.25	704	698		
	0.16	1.48	4.83	13.7	33.8	59.8	78.3	87.6	95.2	95.7	88.3	78.7	63.3	37.8	15.9	5.75	1.89	0.26	763	758		
	0.17	1.51	4.93	14.4	35.7	62.2	80.0	90.6	101	101	90.0	79.4	65.2	40.4	17.1	6.00	1.95	0.27	792	787		
	0.16	1.47	4.78	13.8	34.1	60.4	79.1	89.7	97.1	95.9	87.4	77.8	63.4	38.9	16.5	5.88	1.93	0.26	769	764		
	0.15	1.37	4.42	12.0	29.3	53.7	74.5	85.3	89.6	88.4	82.7	73.7	57.1	33.5	14.3	5.42	1.82	0.25	708	702		
	0.14	1.22	3.88	9.68	22.4	42.0	63.3	77.7	83.2	82.4	76.6	64.9	46.0	25.5	11.4	4.80	1.64	0.23	617	610		
	0.12	1.02	3.21	7.31	15.2	28.5	44.4	58.2	65.7	66.1	59.7	47.5	31.7	17.3	8.60	4.10	1.42	0.21	461	452		
	0.10	0.80	2.51	5.27	9.79	16.6	25.2	33.6	38.9	39.6	35.5	27.7	18.9	11.3	6.49	3.27	1.17	0.18	277	265		
	0.07	0.57	1.75	3.60	6.15	9.25	12.6	16.1	18.2	18.7	17.6	14.8	11.1	7.75	4.72	2.40	0.90	0.15	147	123		
	0.05	0.35	1.04	2.14	3.67	5.28	6.78	8.19	9.08	9.54	9.52	8.74	7.08	4.95	2.98	1.57	0.63	0.12	81.7	19.1		
	0.03	0.15	0.41	0.88	1.55	2.27	2.97	3.57	3.91	4.21	4.46	4.32	3.55	2.49	1.52	0.84	0.38	0.09	37.6	0.00		
	0.02	0.05	0.04	0.07	0.18	0.30	0.43	0.53	0.59	0.73	0.91	0.98	0.86	0.64	0.42	0.28	0.18	0.06	7.26	0.00		
	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90			
Φ t	1.89	15.8	50.1	125	280	497	693	827	909	911	835	712	533	315	146	61.1	21.4	3.24	6961			
Φ a	0.00	0.00	17.8	102	259	476	673	808	890	891	815	692	513	294	125	35.2	0.00	0.00			6598	

Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2019年08月10日

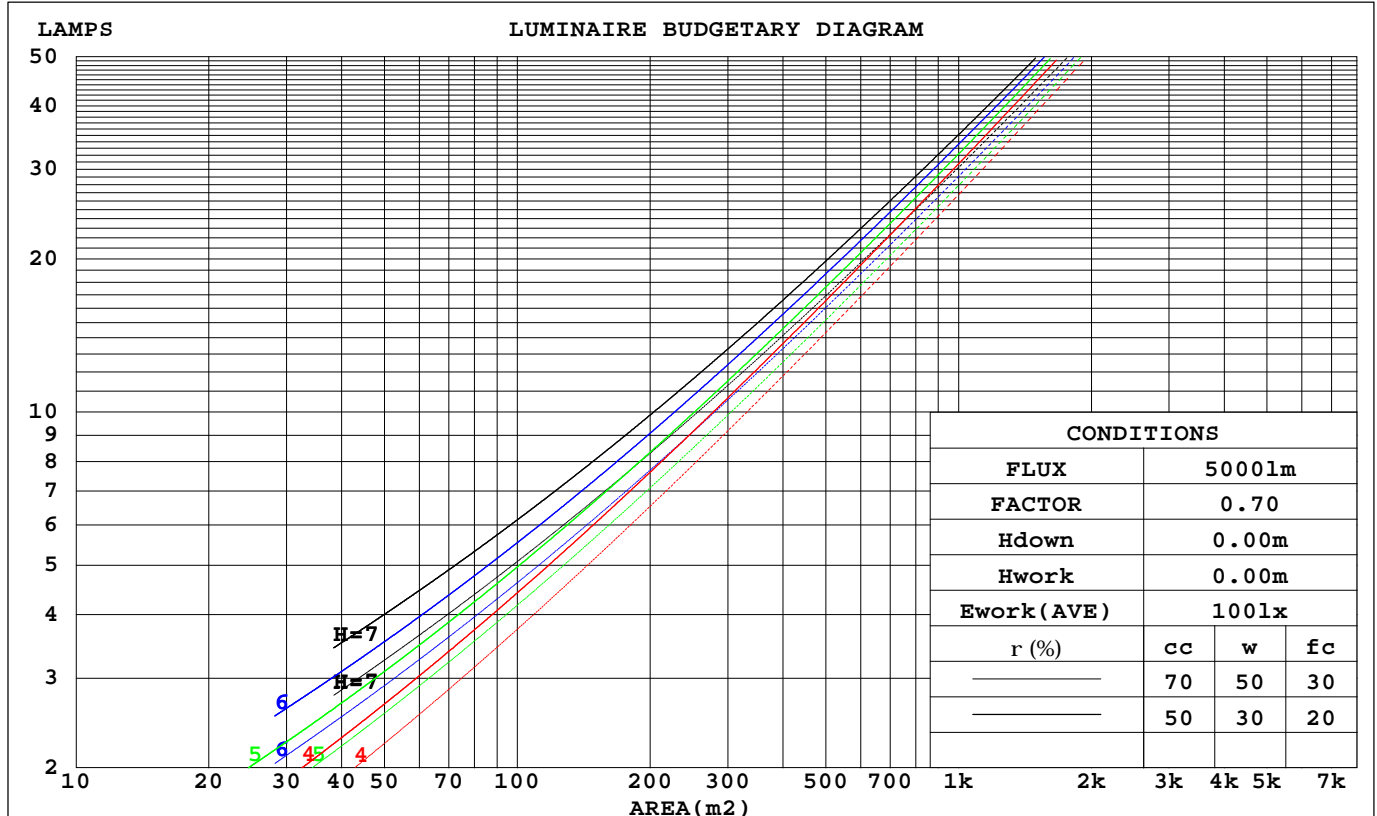
Test Set: 8.0deg/s C-Gamma (TYPE C)
 Humidity:65.0%
 Test Distance:11.000 m
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: 90°50W								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10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°50W						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	.259	.147	.047	.252	.144	.046	.239	.137	.044	.227	.131	.042	.215	.125	.040															
2.0	.247	.136	.042	.241	.133	.041	.230	.128	.040	.219	.123	.039	.209	.118	.037															
3.0	.233	.124	.037	.228	.122	.037	.218	.118	.036	.208	.114	.035	.200	.110	.034															
4.0	.218	.114	.033	.214	.112	.033	.205	.109	.032	.197	.106	.032	.189	.103	.031															
5.0	.205	.104	.030	.201	.103	.030	.193	.100	.030	.185	.098	.029	.179	.095	.029															
6.0	.192	.096	.028	.189	.095	.027	.182	.093	.027	.175	.091	.027	.169	.089	.026															
7.0	.181	.089	.025	.178	.088	.025	.171	.087	.025	.165	.085	.025	.160	.083	.024															
8.0	.171	.083	.023	.168	.083	.023	.162	.081	.023	.157	.079	.023	.152	.078	.023															
9.0	.161	.078	.022	.158	.077	.022	.153	.076	.021	.149	.074	.021	.144	.073	.021															
10.0	.153	.073	.020	.150	.073	.020	.146	.071	.020	.141	.070	.020	.137	.069	.020															

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	.193	.193	.193	.165	.165	.165	.113	.113	.113	.065	.065	.065	.021	.021	.021	
1.0	.179	.159	.141	.153	.137	.121	.105	.094	.084	.060	.054	.049	.019	.018	.016	
2.0	.169	.135	.106	.145	.116	.092	.099	.080	.064	.057	.047	.037	.018	.015	.012	
3.0	.160	.117	.082	.137	.101	.071	.094	.070	.050	.054	.041	.029	.017	.013	.010	
4.0	.152	.103	.065	.130	.089	.057	.090	.062	.040	.052	.036	.024	.017	.012	.008	
5.0	.144	.092	.054	.124	.080	.047	.085	.056	.033	.050	.033	.020	.016	.011	.006	
6.0	.138	.084	.045	.118	.072	.039	.082	.051	.028	.047	.030	.016	.015	.010	.005	
7.0	.131	.077	.038	.113	.066	.033	.078	.047	.024	.045	.027	.014	.015	.009	.005	
8.0	.125	.071	.033	.108	.061	.029	.075	.043	.021	.043	.025	.012	.014	.008	.004	
9.0	.120	.066	.029	.103	.057	.026	.071	.040	.018	.042	.024	.011	.013	.008	.004	
10.0	.115	.062	.026	.099	.053	.023	.069	.038	.016	.040	.022	.010	.013	.007	.003	

Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2019年08月10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°50W					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	2H	21.5	22.9	21.8	23.1	23.3	20.1	21.5	20.4	21.7	21.9
	3H	22.1	23.4	22.4	23.6	23.8	20.7	21.9	20.9	22.1	22.4
	4H	22.4	23.6	22.8	23.9	24.1	20.8	22.0	21.1	22.2	22.5
	6H	22.7	23.8	23.0	24.1	24.3	20.9	22.0	21.2	22.3	22.5
	8H	22.8	23.9	23.1	24.1	24.4	20.9	21.9	21.2	22.2	22.5
	12H	22.9	23.9	23.2	24.2	24.5	20.8	21.9	21.2	22.2	22.5
4H	2H	21.6	22.8	21.9	23.0	23.3	20.4	21.6	20.7	21.8	22.1
	3H	22.4	23.4	22.8	23.7	24.0	21.2	22.2	21.5	22.5	22.8
	4H	22.8	23.7	23.2	24.1	24.4	21.5	22.4	21.8	22.7	23.0
	6H	23.2	24.0	23.6	24.3	24.7	21.6	22.5	22.0	22.8	23.2
	8H	23.3	24.1	23.7	24.5	24.8	21.7	22.4	22.1	22.8	23.2
	12H	23.5	24.2	23.9	24.5	24.9	21.6	22.3	22.1	22.7	23.1
8H	4H	22.9	23.6	23.3	24.0	24.4	21.6	22.4	22.0	22.8	23.1
	6H	23.3	24.0	23.8	24.4	24.8	21.9	22.6	22.4	23.0	23.4
	8H	23.5	24.1	24.0	24.5	25.0	22.0	22.5	22.5	23.0	23.4
	12H	23.7	24.2	24.2	24.7	25.1	22.0	22.5	22.5	22.9	23.4
12H	4H	22.9	23.6	23.3	23.9	24.3	21.6	22.3	22.1	22.7	23.1
	6H	23.3	23.9	23.8	24.3	24.8	22.0	22.5	22.4	22.9	23.4
	8H	23.6	24.0	24.0	24.5	25.0	22.1	22.5	22.5	23.0	23.5
Variations with the observer position at spacings:											
S = 1.0H	+ 0.5 / - 0.6					+ 0.7 / - 0.9					
1.5H	+ 0.6 / - 0.8					+ 0.6 / - 0.9					
2.0H	+ 1.9 / - 1.4					+ 1.5 / - 1.5					

CIE Pub.117 Corrected 6961 lm Total Lamp Luminous Flux.(8log(F/F0) = 6.7)

Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2019年08月10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°50W	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) $k(RI) \times RCR = 5$									
$k = 0.60$	65	55	49	65	55	49	64	54	49	43
0.80	75	65	59	74	65	59	73	64	59	53
1.00	83	74	68	82	73	68	80	74	67	61
1.25	90	81	75	88	80	75	86	79	74	68
1.50	94	86	80	93	85	80	90	84	79	72
2.00	100	93	88	98	92	87	95	90	85	78
2.50	103	97	92	101	95	91	97	93	89	81
3.00	106	100	95	104	98	94	100	96	92	84
4.00	109	104	100	106	102	99	102	99	96	88
5.00	111	107	103	108	105	102	104	101	99	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

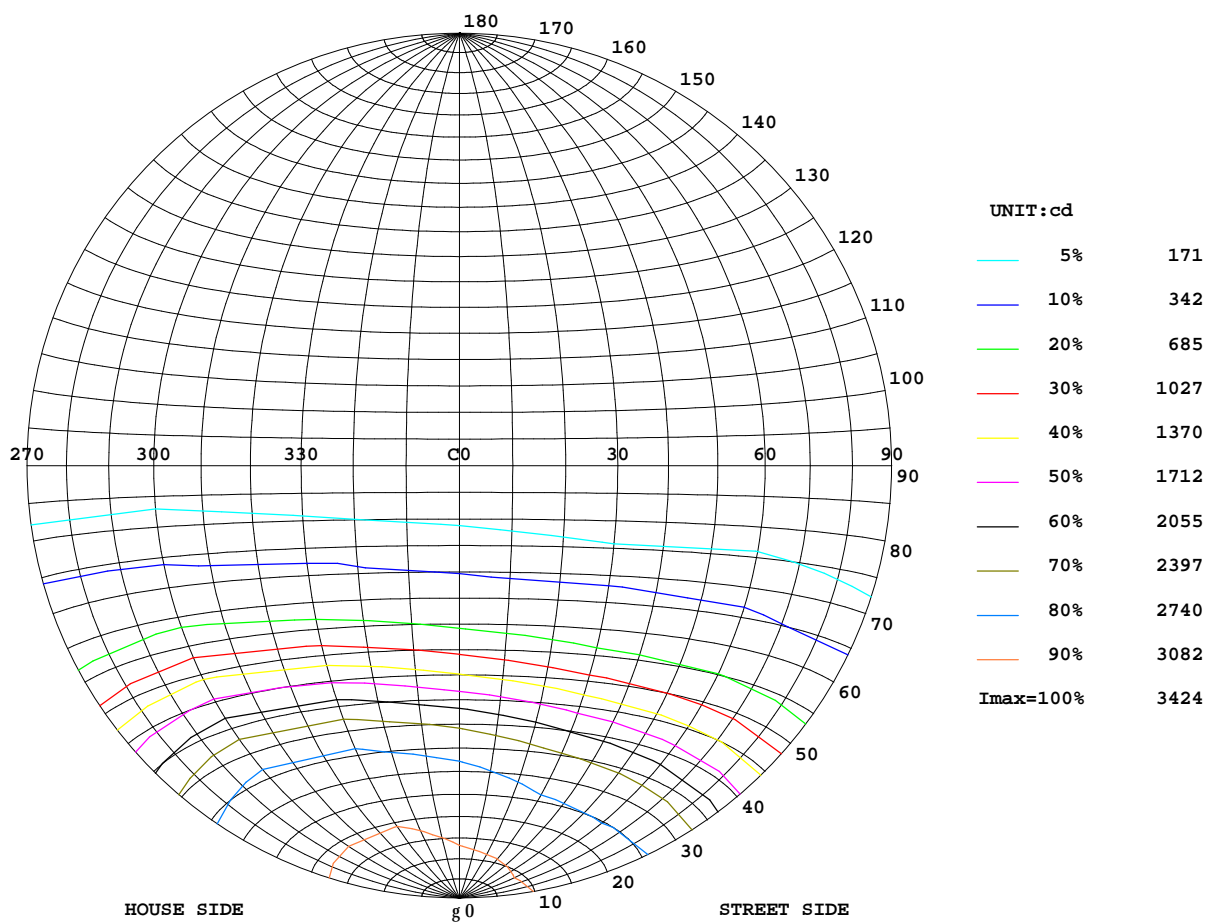
Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2019年08月10日

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°50W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月10日

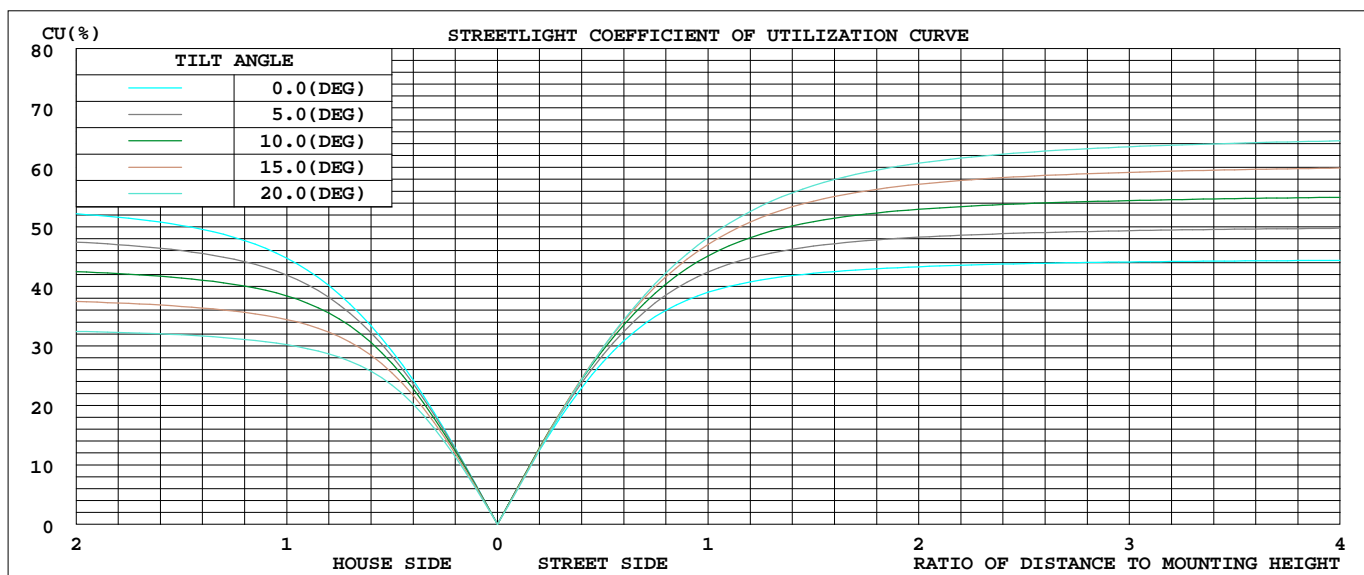
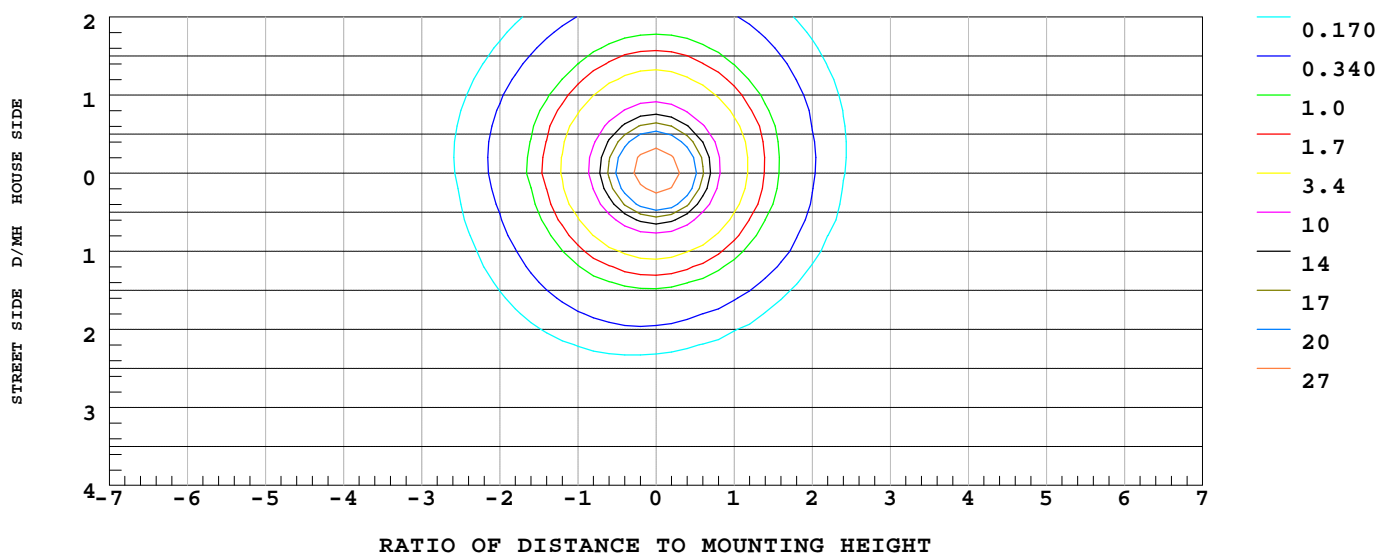
Test Set: 8.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 90°50W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:

ILLUMINANCE AT MH=10 m, Enadir = 34.08 lx



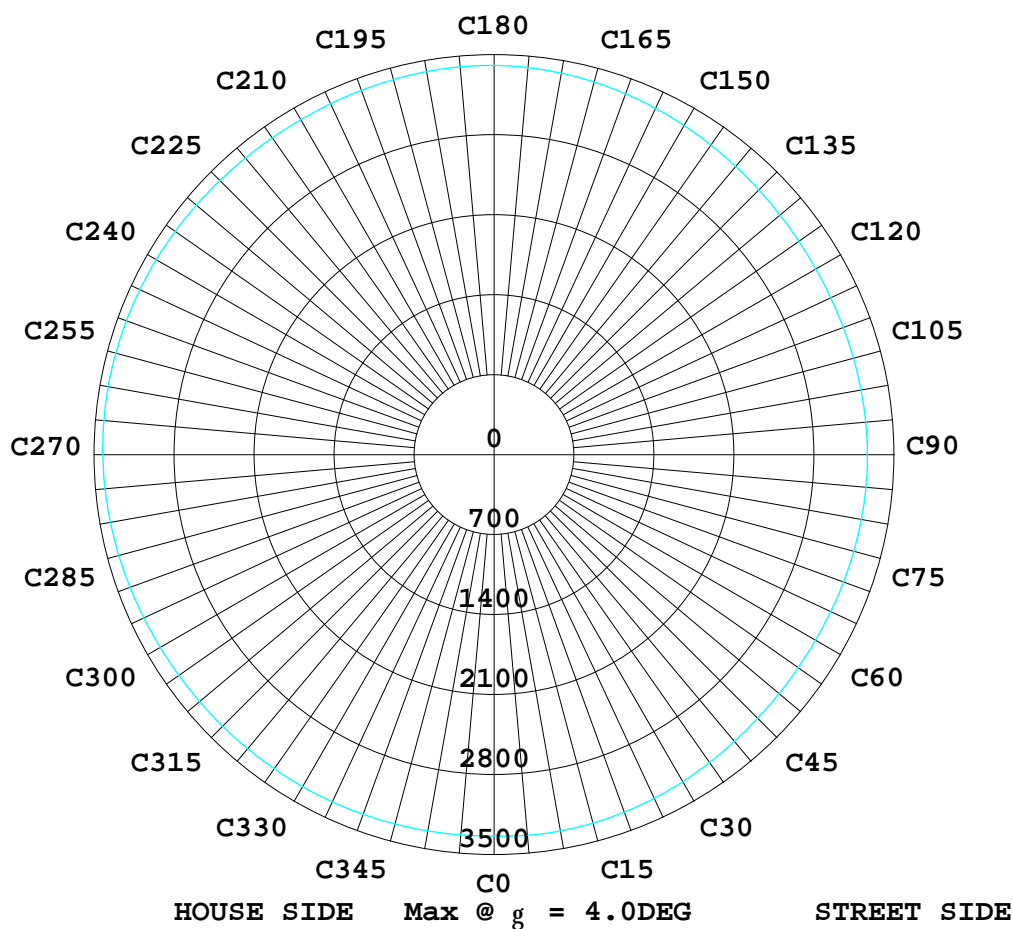
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月10日

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°50W	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 576*188mm	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2019年08月10日

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