

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

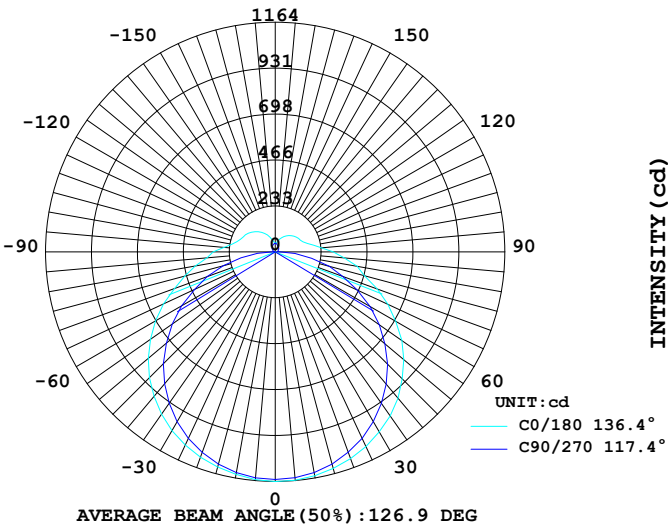
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

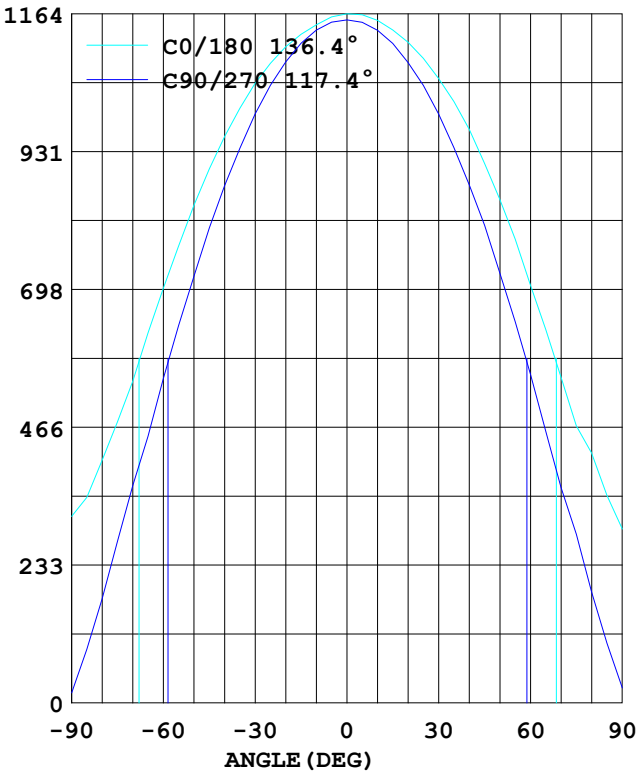
MANUFACTURER:		
Address:		
NAME: 1.2M-40W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:

DATA OF LAMP		Imax(cd)	1164	S/MH(C0/180)	1.34
MODEL		EFFICIENCY(%)	100.0	S/MH(C90/270)	1.28
NOMINAL POWER(W)	42	TOTAL FLUX(lm)	4666.3	Voltage(V)	217.5
RATED VOLTAGE(V)	218	EFFICIENCY(lm/W)	111.6	Current(A)	0.195
NOMINAL FLUX(lm)	4666.3	η up(%)	13.1	Power(W)	41.82
LAMPS QUANTITY	1	η down(%)	86.9	Power Factor(PF)	0.985
TEST VOLTAGE(V)	217.5	Effective Flux(lm)	4414.5	EEI	0.129

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

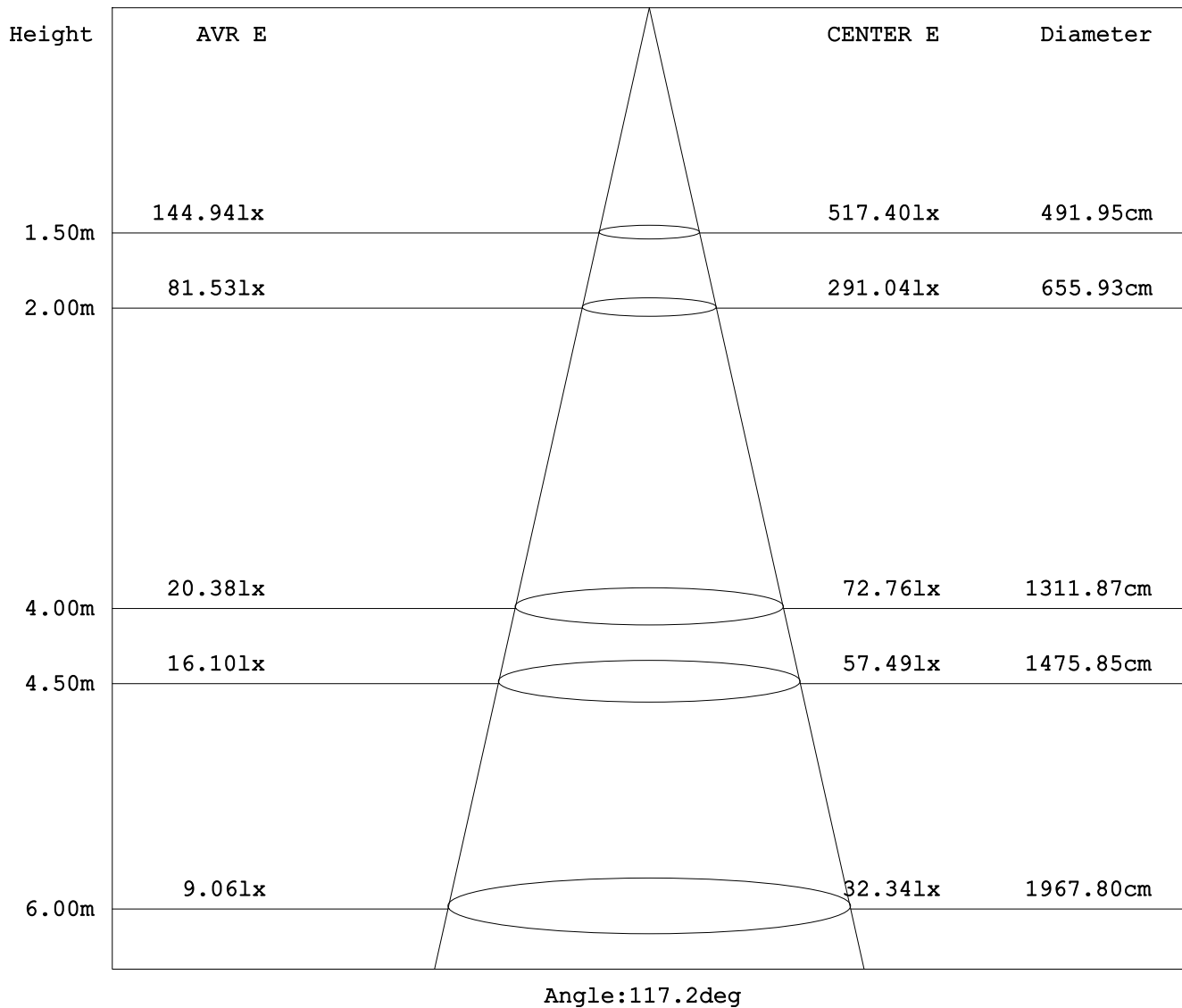
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-40W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:



Test System: HOPOO HPG1800  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity: 65.0%  
 Test Distance: 11.000 m  
 Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-40W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total
10.0	1145	1142	1136	1144	1153	1147	1136	1136	0- 10	109.8	109.8
20.0	1108	1094	1083	1101	1116	1101	1081	1087	10- 20	317.2	427.0
30.0	1047	1021	994.7	1030	1054	1027	994.3	1013	20- 30	490.4	917.4
40.0	956.2	917.4	873.2	929.0	968.7	925.9	874.9	911.0	30- 40	610.0	1528
50.0	840.7	787.4	720.6	802.2	850.5	796.3	726.1	781.1	40- 50	662.2	2190
60.0	700.7	634.9	548.2	651.5	705.7	644.9	555.5	629.9	50- 60	639.6	2829
70.0	543.6	465.3	367.3	481.5	550.1	480.1	364.0	471.1	60- 70	547.1	3377
80.0	410.3	318.7	176.5	328.5	422.2	314.6	187.4	312.9	70- 80	409.3	3786
90.0	315.2	202.7	16.94	203.3	293.7	197.7	25.41	207.5	80- 90	270.0	4056
100.0	224.0	121.0	5.808	111.6	197.3	108.7	10.89	124.0	90-100	157.9	4214
110.0	187.7	114.5	10.28	96.98	149.7	95.16	13.91	119.3	100-110	112.7	4327
120.0	174.4	111.2	13.91	92.56	136.9	90.20	18.75	114.8	110-120	98.47	4425
130.0	155.7	102.0	19.72	83.12	124.5	82.58	23.71	105.4	120-130	83.50	4509
140.0	134.1	89.47	25.28	72.35	108.4	71.32	26.86	92.86	130-140	65.26	4574
150.0	108.6	74.47	30.73	58.80	90.75	57.89	30.37	77.25	140-150	45.79	4620
160.0	79.98	59.35	36.17	48.40	70.05	48.82	35.09	60.92	150-160	28.11	4648
170.0	54.44	48.94	41.38	40.89	49.48	41.07	41.38	49.00	160-170	14.22	4662
180.0	45.37	42.83	44.16	42.83	44.64	43.13	44.52	43.07	170-180	4.218	4666
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

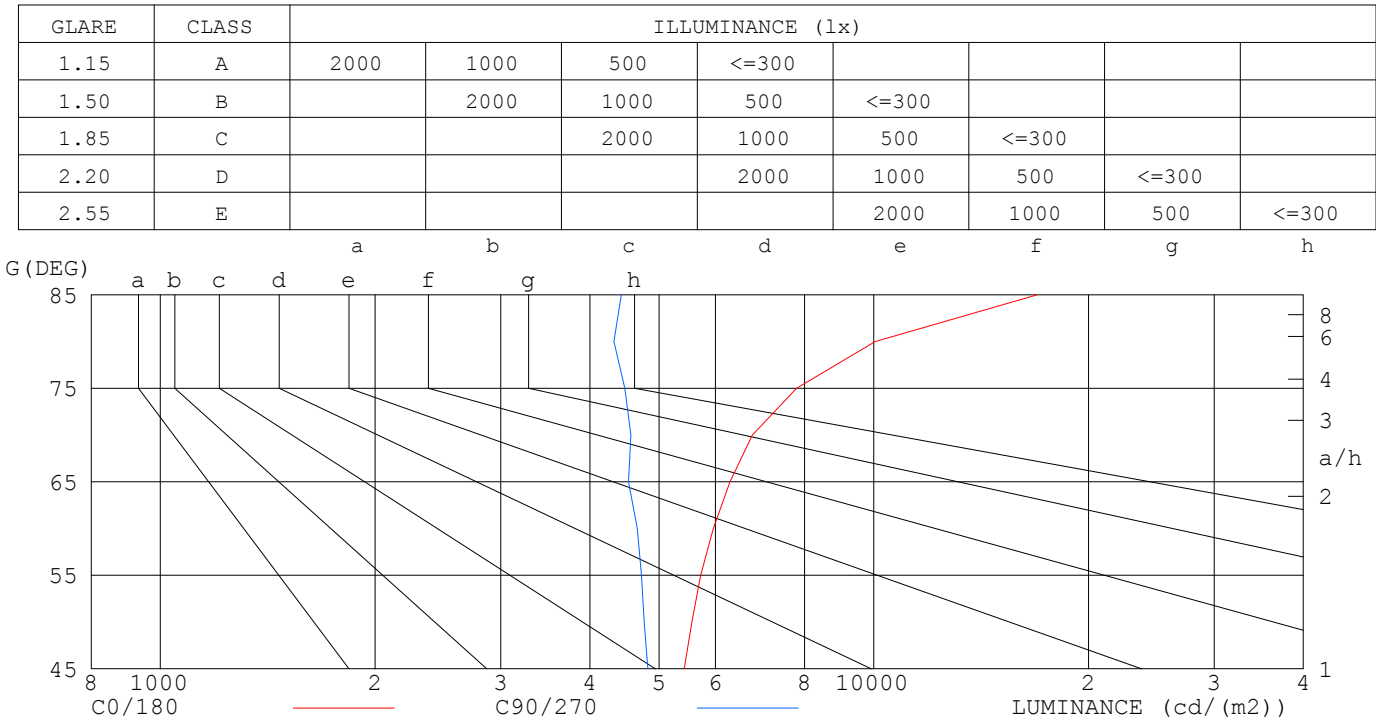
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:					
Address:					
NAME: 1.2M-40W-3000K		TYPE:		WEIGHT:	
SPECIFICATION:		DIMENSION: 1200*152*52mm		SERIAL No.:	

LUMINANCE LIMITATION CURVES



LUMINANCE cd/ (m2)		
G (DEG)	C0/180	C90/270
85	16945	4427
80	10045	4322
75	7795	4478
70	6758	4566
65	6287	4530
60	5958	4662
55	5720	4725
50	5560	4766
45	5423	4823

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

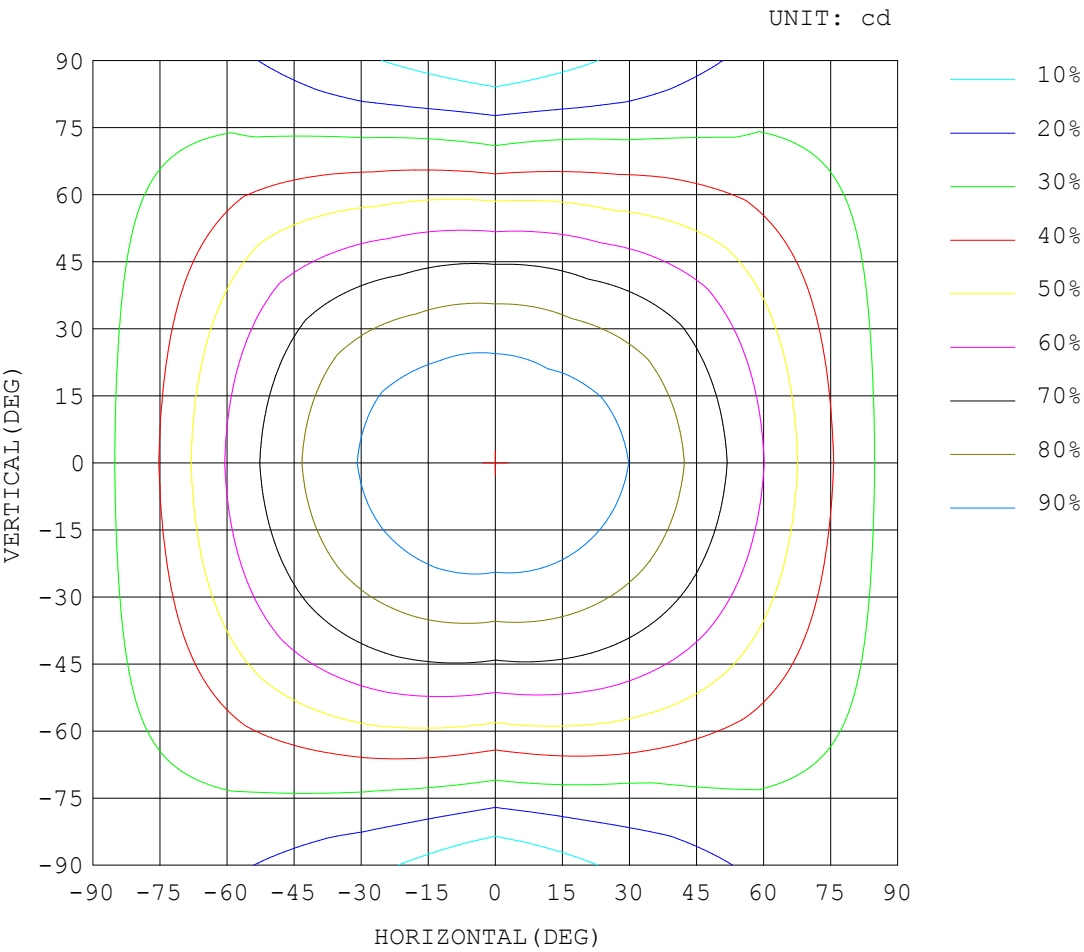
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-40W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

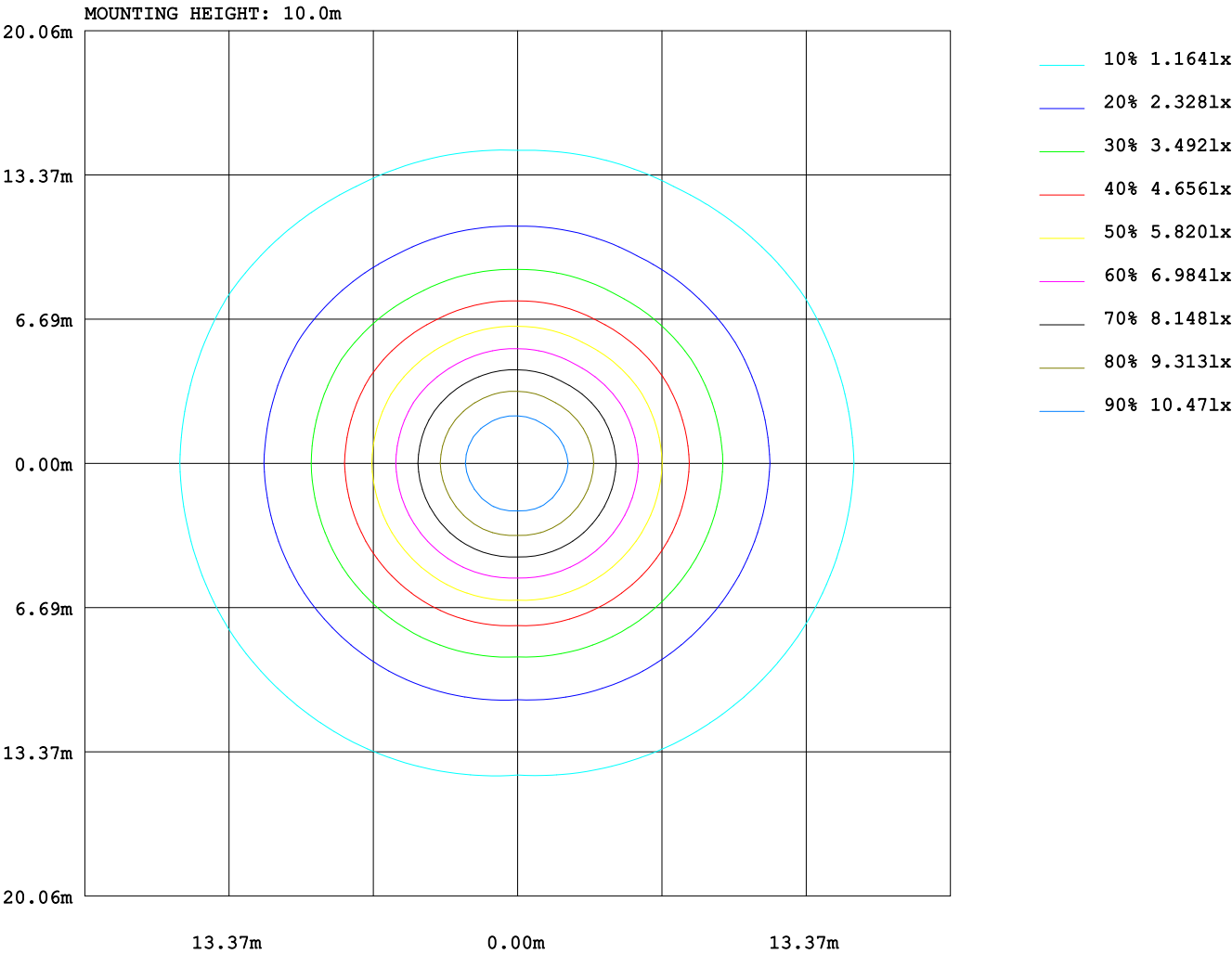
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-40W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

## HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## AREA LUMINOUS FLUX

Report number:

MANUFACTURER:																				
Address:																				
NAME: 1.2M-40W-3000K										TYPE:					WEIGHT:					
SPECIFICATION:										DIMENSION: 1200*152*52mm					SERIAL No.:					

VERTICAL (DEG)	AREA FLUX DIAGRAM																		UNIT:lm			Φ t	Φ a
	0.78	2.30	3.74	4.75	5.11	5.04	4.74	4.29	3.58	3.60	4.35	4.85	5.17	5.23	4.85	3.83	2.39	0.82	69.4	65.3			
90																							
80	0.81	2.53	4.34	5.89	7.08	8.00	8.65	8.99	8.80	8.77	8.90	8.51	7.88	7.03	5.90	4.35	2.56	0.84	110	110			
70	0.85	2.77	4.96	7.33	9.56	11.4	12.9	13.9	14.1	14.0	13.7	12.7	11.2	9.39	7.25	4.93	2.76	0.87	155	155			
60	0.88	3.01	5.66	8.92	12.0	14.9	17.1	18.9	19.6	19.5	18.6	16.8	14.5	11.7	8.72	5.62	2.98	0.89	201	201			
50	0.91	3.24	6.37	10.3	14.4	18.1	21.1	23.3	24.4	24.3	23.0	20.7	17.7	14.1	10.1	6.29	3.20	0.91	243	243			
40	0.94	3.43	7.01	11.5	16.4	20.8	24.4	27.0	28.4	28.2	26.7	24.0	20.4	16.1	11.3	6.89	3.40	0.93	279	279			
30	0.96	3.59	7.52	12.5	17.9	23.0	27.1	29.9	31.5	31.3	29.5	26.7	22.6	17.6	12.3	7.41	3.57	0.95	306	306			
	0.98	3.71	7.89	13.2	18.9	24.4	28.9	32.1	33.6	33.4	31.6	28.5	24.0	18.6	13.0	7.79	3.70	0.97	326	326			
	0.99	3.79	8.10	13.5	19.4	25.1	29.7	33.1	34.8	34.6	32.8	29.5	24.8	19.2	13.4	8.02	3.78	0.98	336	336			
	0.99	3.78	8.09	13.5	19.4	25.0	29.7	33.0	34.8	34.7	32.8	29.5	24.8	19.2	13.3	8.00	3.77	0.98	336	336			
	0.98	3.70	7.86	13.1	18.8	24.2	28.8	32.0	33.7	33.6	31.8	28.5	23.9	18.5	12.9	7.75	3.69	0.97	326	326			
-30	0.96	3.58	7.48	12.4	17.8	22.9	27.1	30.2	31.6	31.5	29.9	26.8	22.5	17.4	12.2	7.35	3.55	0.95	307	307			
-40	0.93	3.42	6.94	11.4	16.3	20.8	24.7	27.3	28.4	28.4	27.1	24.3	20.5	15.9	11.1	6.81	3.38	0.93	279	279			
-50	0.91	3.23	6.29	10.2	14.3	18.2	21.5	23.6	24.4	24.3	23.4	21.1	17.8	14.0	9.92	6.18	3.18	0.91	244	244			
-60	0.87	3.01	5.61	8.77	12.0	15.1	17.6	19.1	19.5	19.4	18.9	17.3	14.7	11.7	8.50	5.52	2.96	0.88	202	202			
-70	0.84	2.75	4.95	7.27	9.56	11.6	13.3	14.1	14.1	14.0	13.9	12.9	11.2	9.18	7.07	4.88	2.73	0.86	156	156			
-80	0.81	2.49	4.26	5.91	7.27	8.36	9.00	9.10	8.68	8.56	8.75	8.45	7.87	7.03	5.84	4.24	2.51	0.84	110	110			
-90	0.77	2.26	3.62	4.65	5.22	5.45	5.20	4.47	3.44	3.38	4.30	4.94	5.23	5.14	4.67	3.69	2.33	0.81	69.6	65.6			
	-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)					20	30	40	50	60	70	80	90		
Φ t	16.1	56.6	111	176	242	303	352	385	398	396	381	347	298	238	173	110	56.5	16.3	4666				
Φ a	16.1	56.6	111	176	242	303	352	384	396	394	379	347	298	238	173	110	56.5	16.3		4415			

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

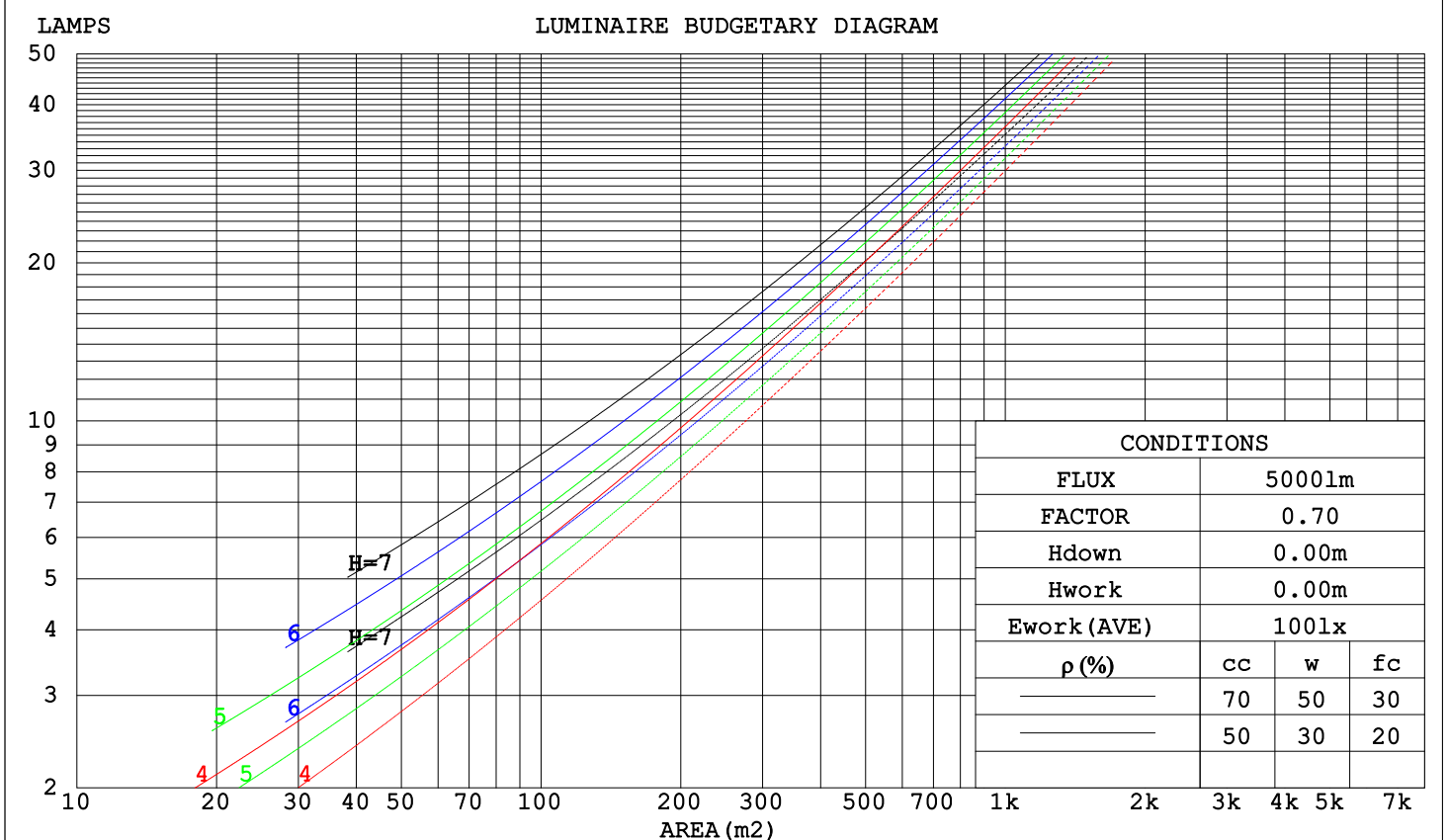
# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: 1.2M-40W-3000K								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 1200*152*52mm				SERIAL No.:			

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:



# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## WEC AND CCEC

Report number:

MANUFACTURER:															
Address:															
NAME: 1.2M-40W-3000K								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 1200*152*52mm				SERIAL No.:			

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.363	.207	.065	.352	.201	.064	.331	.190	.061	.312	.180	.058	.294	.171	.055	
2.0	.322	.176	.054	.312	.172	.053	.293	.163	.051	.276	.155	.048	.259	.147	.046	
3.0	.289	.154	.046	.280	.150	.045	.263	.143	.043	.247	.136	.042	.233	.129	.040	
4.0	.262	.136	.040	.254	.133	.039	.239	.127	.038	.224	.120	.036	.211	.115	.035	
5.0	.239	.122	.035	.232	.119	.035	.218	.114	.033	.205	.108	.032	.193	.103	.031	
6.0	.220	.110	.032	.213	.108	.031	.201	.103	.030	.189	.098	.029	.178	.094	.028	
7.0	.203	.101	.029	.197	.098	.028	.186	.094	.027	.175	.090	.026	.165	.086	.025	
8.0	.189	.092	.026	.184	.090	.026	.173	.086	.025	.163	.083	.024	.154	.079	.023	
9.0	.176	.085	.024	.171	.084	.023	.162	.080	.023	.153	.077	.022	.144	.073	.021	
10.0	.165	.079	.022	.161	.078	.022	.152	.074	.021	.143	.071	.020	.136	.068	.020	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.290	.290	.290	.248	.248	.248	.169	.169	.169	.097	.097	.097	.031	.031	.031	
1.0	.284	.256	.231	.243	.220	.198	.166	.151	.137	.096	.088	.080	.031	.028	.026	
2.0	.277	.233	.196	.238	.200	.169	.163	.139	.118	.094	.081	.069	.030	.026	.023	
3.0	.270	.216	.173	.231	.186	.150	.159	.130	.105	.092	.076	.062	.029	.025	.020	
4.0	.262	.203	.159	.225	.176	.138	.155	.122	.097	.089	.072	.057	.029	.023	.019	
5.0	.255	.193	.148	.219	.167	.129	.151	.117	.091	.087	.069	.054	.028	.022	.018	
6.0	.247	.185	.141	.212	.161	.123	.147	.112	.087	.085	.066	.052	.027	.022	.017	
7.0	.240	.179	.136	.207	.155	.118	.143	.109	.084	.083	.064	.050	.027	.021	.016	
8.0	.234	.173	.132	.201	.150	.115	.139	.105	.081	.081	.062	.048	.026	.020	.016	
9.0	.227	.168	.128	.196	.146	.112	.136	.103	.079	.079	.061	.047	.026	.020	.016	
10.0	.222	.164	.126	.191	.142	.110	.132	.100	.078	.077	.059	.047	.025	.019	.015	

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## Uncorrected UGR Table

Report number:

MANUFACTURER:											
Address:											
NAME: 1.2M-40W-3000K						TYPE:			WEIGHT:		
SPECIFICATION:						DIMENSION: 1200*152*52mm			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	18.3	19.7	18.7	20.1	20.6	17.4	18.8	17.9	19.3	19.7	
	20.4	21.7	20.9	22.2	22.7	19.1	20.4	19.6	20.9	21.4	
	21.6	22.8	22.1	23.3	23.9	19.8	21.0	20.3	21.5	22.0	
	22.9	24.0	23.4	24.5	25.1	20.4	21.5	20.9	22.0	22.6	
	23.5	24.6	24.0	25.1	25.7	20.6	21.7	21.1	22.2	22.8	
	24.3	25.4	24.8	25.9	26.5	20.7	21.8	21.3	22.3	22.9	
4H 2H	18.9	20.1	19.4	20.6	21.1	18.3	19.5	18.8	20.0	20.5	
	21.2	22.3	21.8	22.8	23.4	20.1	21.2	20.6	21.7	22.3	
	22.6	23.6	23.1	24.1	24.7	21.0	22.0	21.5	22.5	23.1	
	24.0	24.9	24.6	25.5	26.1	21.7	22.6	22.3	23.2	23.8	
	24.8	25.6	25.4	26.2	26.9	22.0	22.8	22.6	23.4	24.1	
	25.7	26.5	26.4	27.1	27.8	22.2	23.0	22.9	23.6	24.3	
8H 4H	22.9	23.7	23.5	24.3	25.0	21.6	22.4	22.2	23.0	23.6	
	24.6	25.3	25.3	26.0	26.7	22.6	23.3	23.2	23.9	24.6	
	25.6	26.2	26.2	26.9	27.6	23.1	23.7	23.7	24.3	25.0	
	26.8	27.4	27.5	28.0	28.8	23.5	24.0	24.1	24.7	25.4	
12H 4H	22.9	23.7	23.6	24.3	25.0	21.7	22.5	22.3	23.1	23.8	
	24.8	25.4	25.4	26.0	26.7	22.9	23.5	23.5	24.2	24.9	
	25.8	26.4	26.5	27.0	27.8	23.5	24.0	24.1	24.7	25.4	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4					

CIE Pub.117 Corrected 4666 lm Total Lamp Luminous Flux. (8log(F/F0) = 5.4)

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## UTILIZATION FACTORS TABLE

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-40W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	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) $k(RI) \times RCR = 5$									
$k = 0.60$	50	38	31	49	38	31	47	37	30	24
0.80	60	47	39	58	46	39	56	45	38	30
1.00	68	55	47	66	54	47	63	55	46	37
1.25	75	63	55	73	62	54	69	59	52	43
1.50	80	68	60	77	67	59	73	64	57	48
2.00	87	77	69	84	75	68	79	71	65	54
2.50	91	82	75	88	80	73	83	76	70	58
3.00	95	87	80	92	84	78	86	80	74	62
4.00	100	92	86	96	90	84	90	84	80	67
5.00	102	96	91	99	93	88	92	88	84	70
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

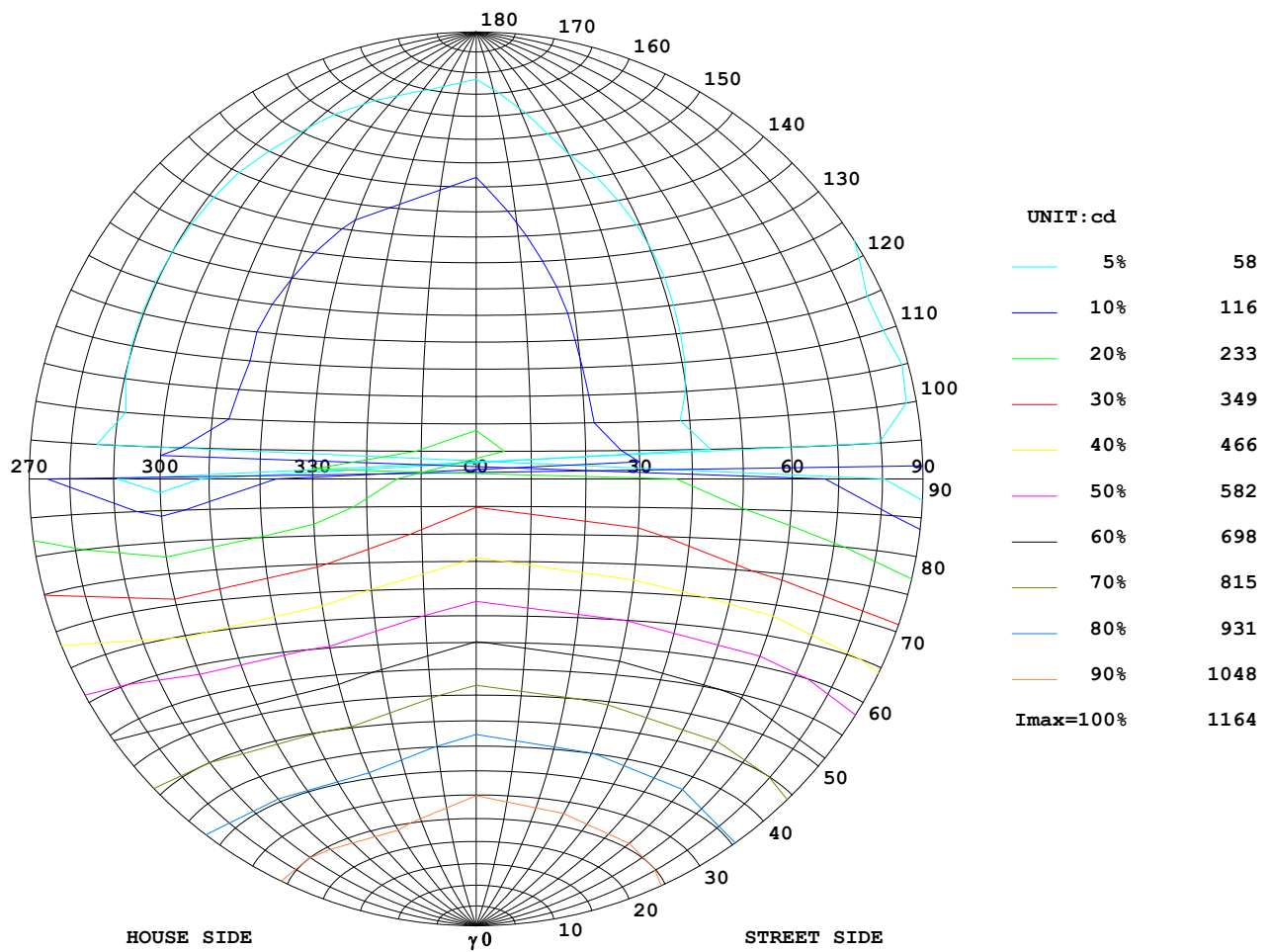
Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-40W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

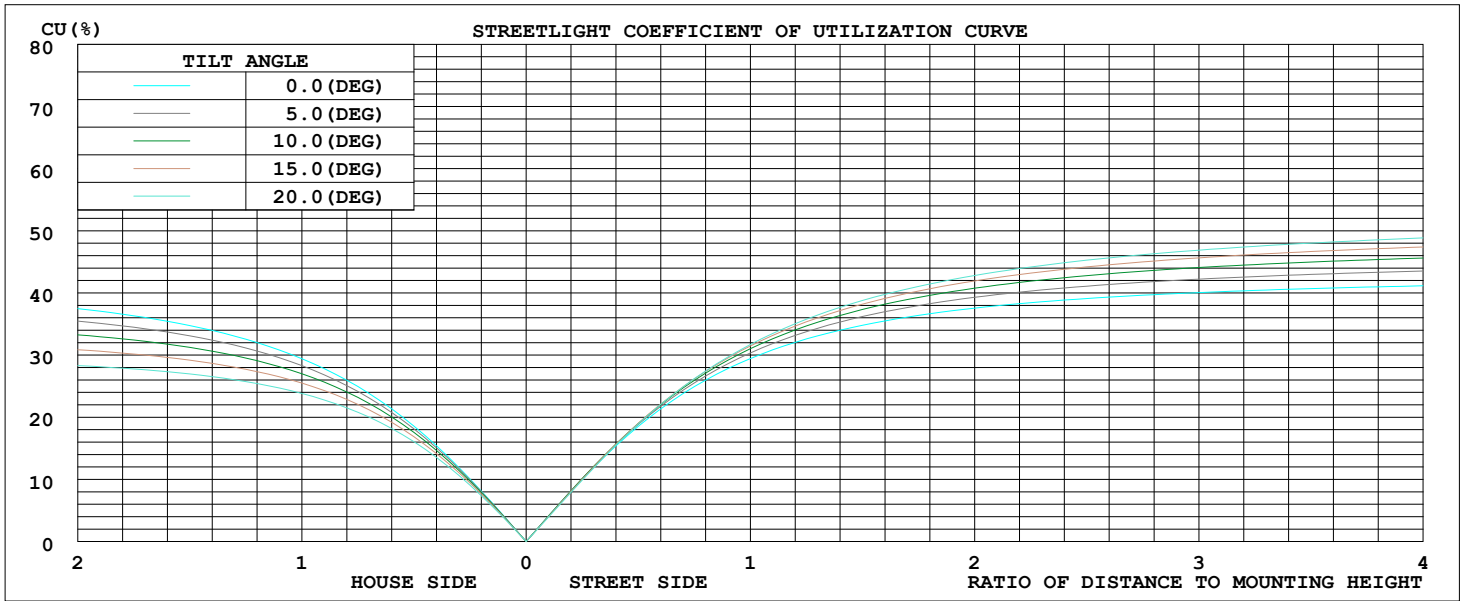
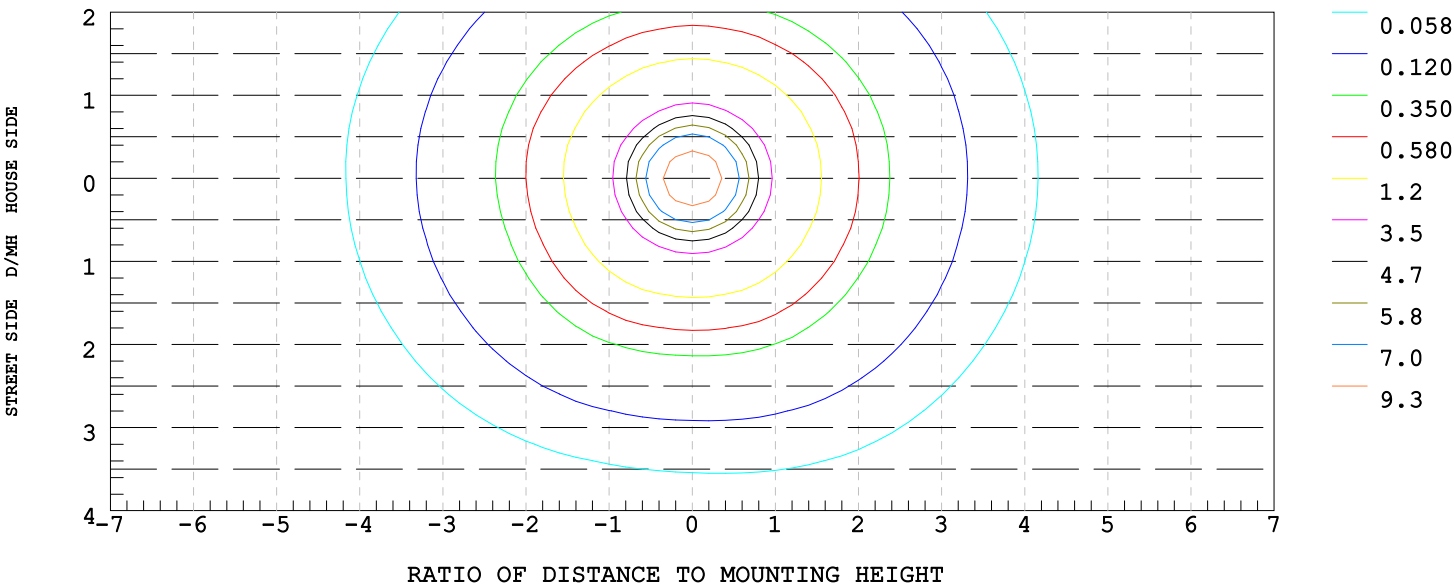
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-40W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:

ILLUMINANCE AT MH=10 m,Enadir = 11.64 lx



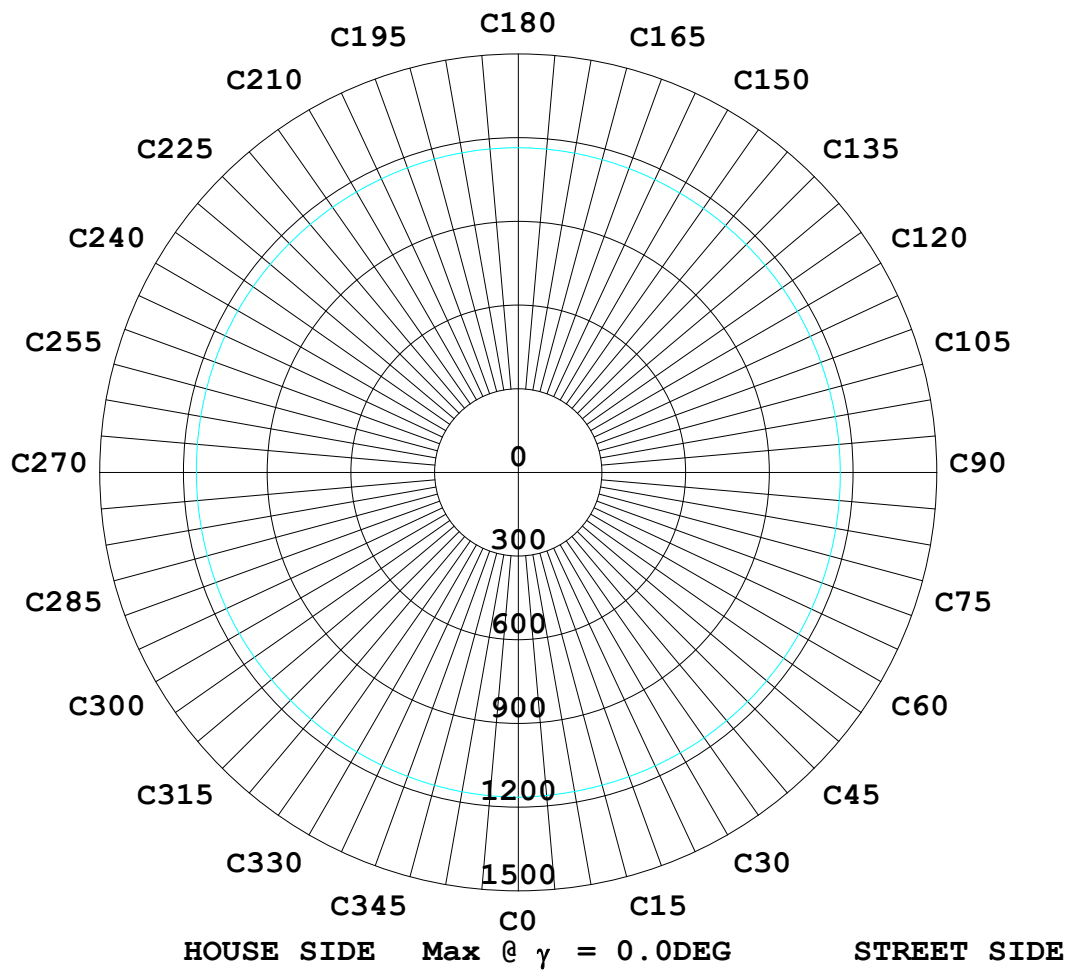
Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-40W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks: