

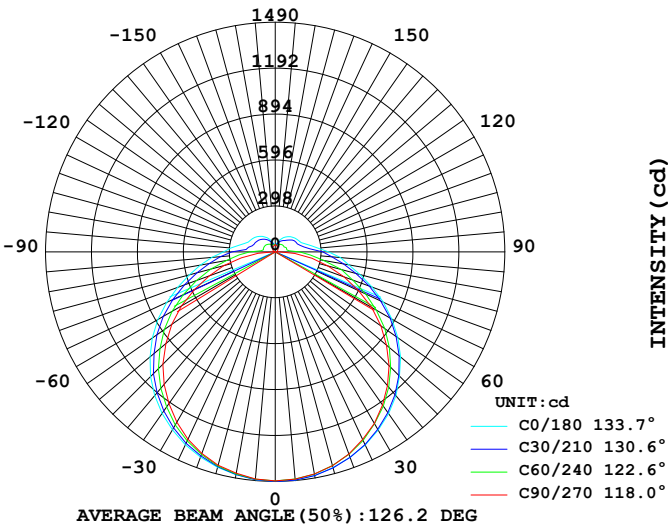
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

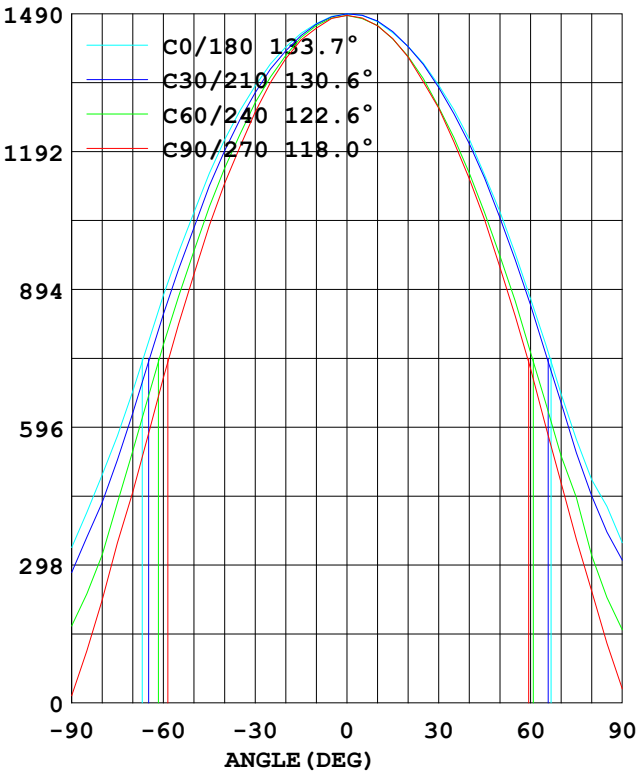
MANUFACTURER:		
Address:		
NAME: 1.5M-40W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:

DATA OF LAMP		Imax(cd)	1490	S/MH(C0/180)	1.34
MODEL		EFFICIENCY(%)	100.0	S/MH(C90/270)	1.28
NOMINAL POWER(W)	42	TOTAL FLUX(lm)	5797.5	Voltage(V)	220.0
RATED VOLTAGE(V)	220	EFFICIENCY(lm/W)	135.6	Current(A)	0.201
NOMINAL FLUX(lm)	5797.6	η up(%)	11.5	Power(W)	42.75
LAMPS QUANTITY	1	η down(%)	88.5	Power Factor(PF)	0.965
TEST VOLTAGE(V)	220.0	Effective Flux(lm)	5440.4	EEI	0.107

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14日

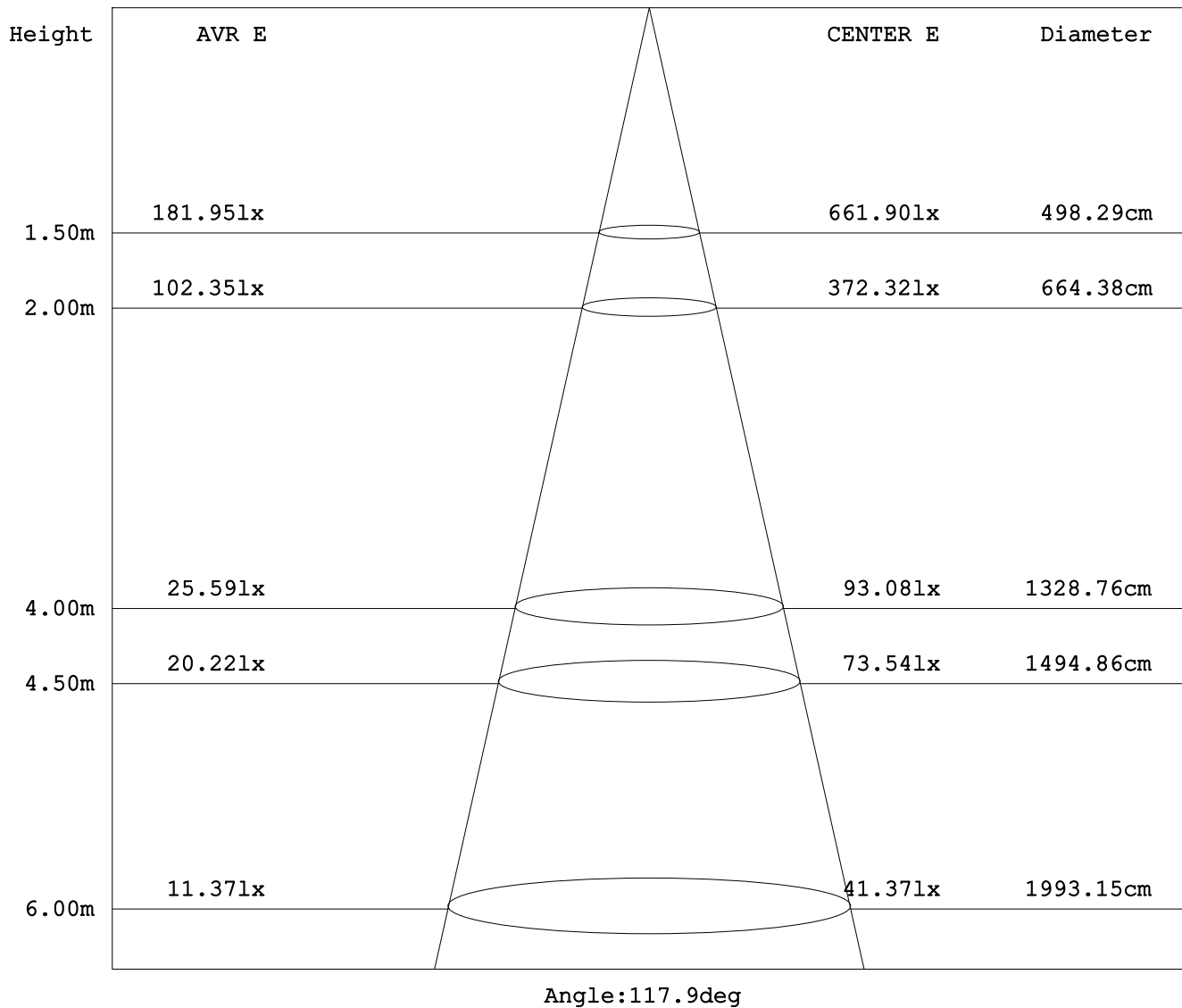
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME: 1.5M-40W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:



Test System: HOPOO HPG1800
 Temperature: 25.3DEG
 Operators:
 Test Date: 2022年11月14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: 1.5M-40W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total
10.0	1468	1465	1458	1470	1472	1469	1463	1466	0- 10	141.0	141.0
20.0	1417	1404	1392	1411	1419	1408	1396	1404	10- 20	407.2	548.2
30.0	1333	1308	1277	1316	1335	1309	1286	1310	20- 30	628.7	1177
40.0	1217	1174	1122	1182	1219	1177	1133	1178	30- 40	780.5	1958
50.0	1060	1002	926.4	1012	1062	1008	942.1	1007	40- 50	844.7	2802
60.0	880.7	807.0	702.6	816.8	874.3	809.4	723.4	810.5	50- 60	812.2	3615
70.0	673.6	585.5	455.6	596.5	668.5	591.9	476.4	593.0	60- 70	688.5	4303
80.0	493.1	376.8	222.6	380.8	482.9	383.8	242.7	386.4	70- 80	506.8	4810
90.0	335.6	223.9	15.36	239.4	346.1	233.1	30.25	238.9	80- 90	320.1	5130
100.0	243.8	127.8	4.840	138.1	236.3	133.1	11.37	139.0	90-100	177.8	5308
110.0	187.6	113.3	9.559	118.5	178.9	115.4	14.88	122.2	100-110	126.6	5435
120.0	171.5	107.8	14.52	107.2	163.5	105.6	18.75	115.9	110-120	106.4	5541
130.0	153.5	99.28	20.69	96.98	148.3	93.16	23.23	105.6	120-130	89.31	5630
140.0	131.6	86.81	26.98	81.07	128.7	79.55	28.31	92.02	130-140	69.02	5699
150.0	105.7	72.35	33.51	67.94	106.7	69.87	33.51	76.41	140-150	48.48	5748
160.0	78.16	57.59	38.47	56.74	81.55	57.65	38.59	60.25	150-160	30.10	5778
170.0	52.87	48.52	42.83	46.40	56.02	47.00	43.31	49.85	160-170	15.13	5793
180.0	47.67	45.25	45.73	45.49	47.31	45.73	46.70	45.55	170-180	4.450	5798
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14日

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

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

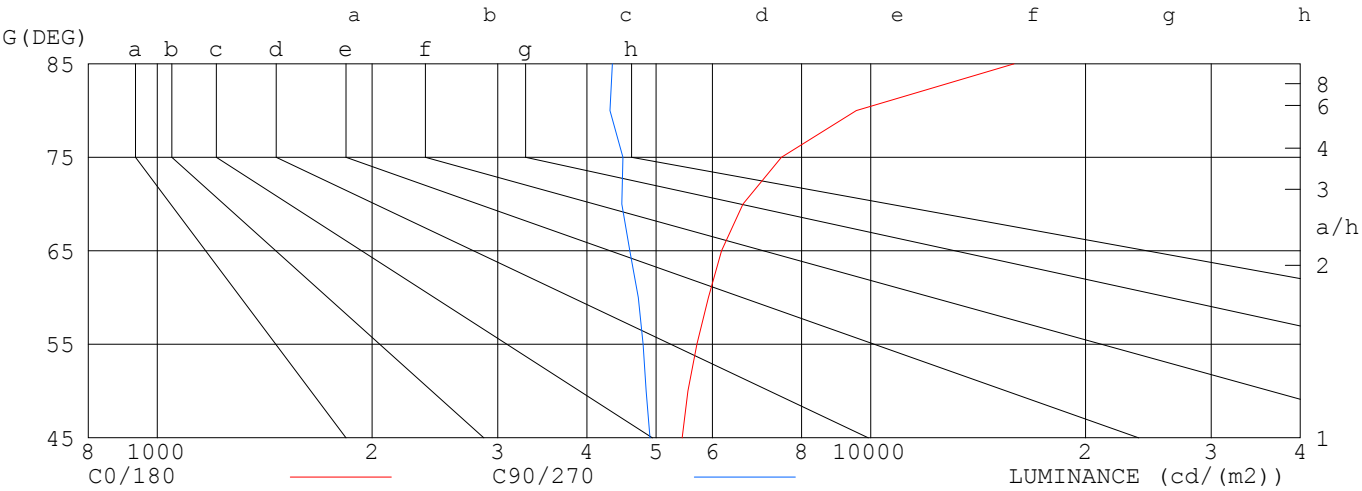
LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:					
Address:					
NAME: 1.5M-40W-4000K		TYPE:		WEIGHT:	
SPECIFICATION:		DIMENSION: 1500*152*52mm		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	15879	4344
80	9546	4309
75	7494	4494
70	6619	4478
65	6178	4594
60	5920	4723
55	5706	4797
50	5544	4844
45	5440	4903

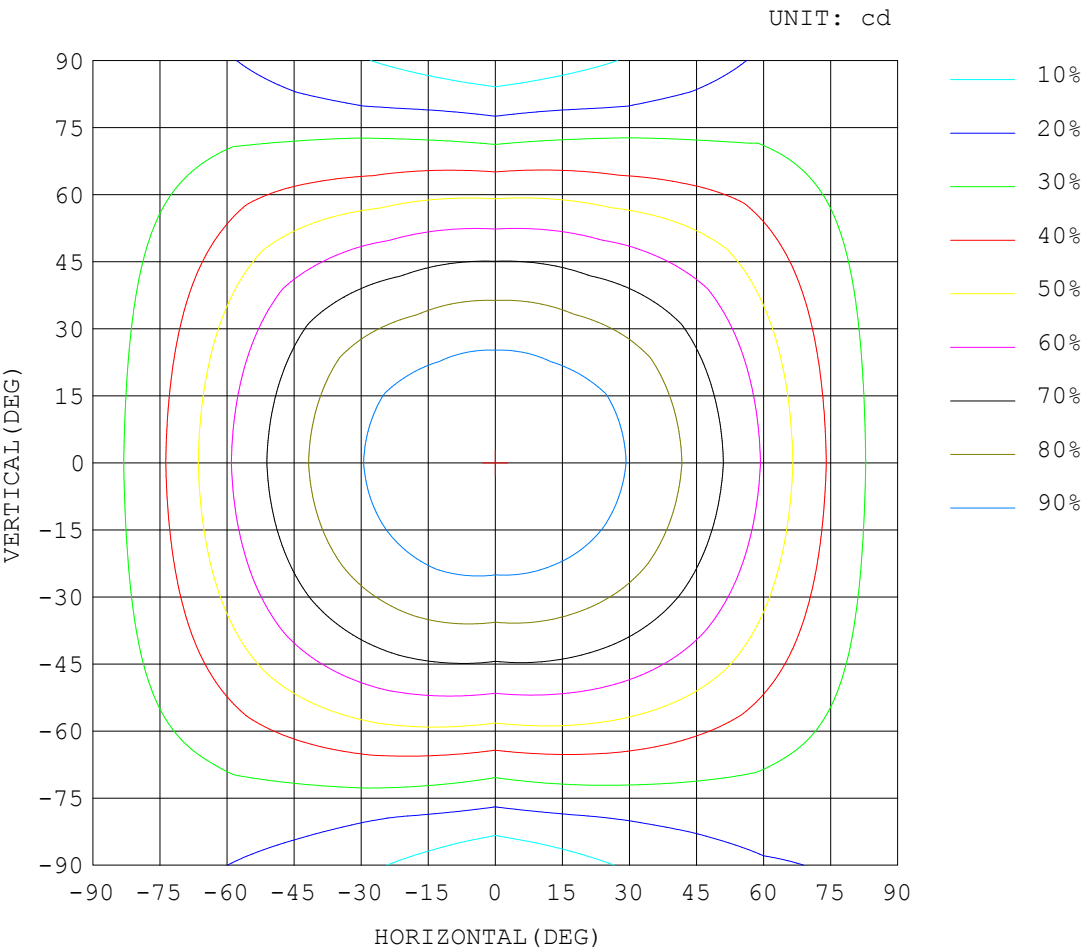
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14日

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: 1.5M-40W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14日

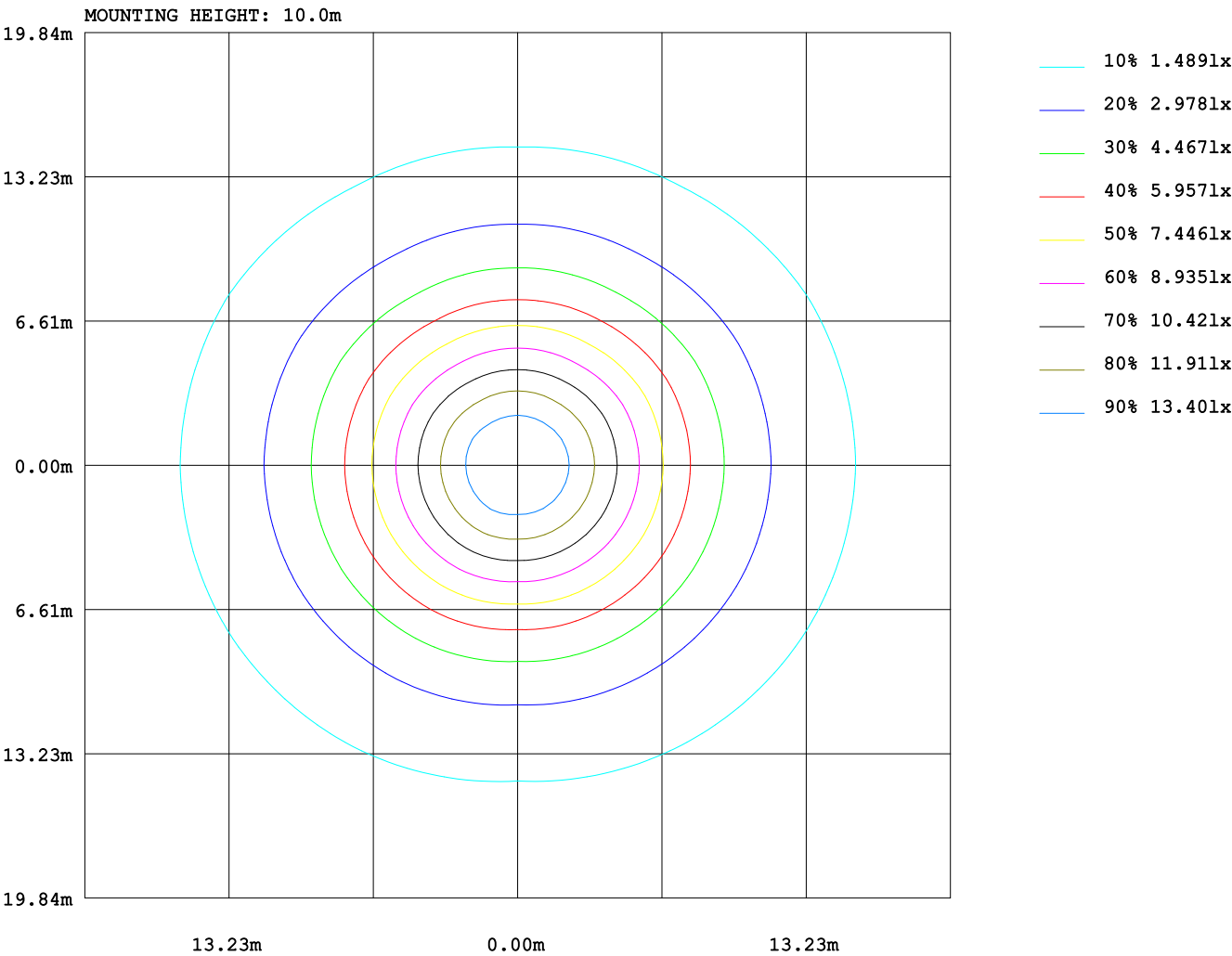
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.5M-40W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14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: 1.5M-40W-4000K										TYPE:					WEIGHT:				
SPECIFICATION:										DIMENSION: 1500*152*52mm					SERIAL No.:				

VERTICAL (DEG)	AREA FLUX DIAGRAM																		UNIT:lm		Φ t	Φ a
	0.92	2.71	4.39	5.56	6.03	6.02	5.73	5.27	4.51	4.51	5.29	5.76	6.07	6.12	5.67	4.45	2.70	0.90	82.7	76.5		
90	0.96	3.01	5.14	7.11	8.65	9.92	10.8	11.3	11.1	11.1	11.3	10.8	9.95	8.73	7.20	5.18	2.98	0.94	137	137		
80	1.00	3.29	5.97	8.98	11.8	14.2	16.1	17.7	18.3	18.3	17.7	16.2	14.3	11.8	9.10	6.06	3.29	0.99	196	196		
70	1.05	3.57	6.88	10.9	15.0	18.6	21.7	24.1	25.3	25.3	24.2	21.7	18.7	15.0	11.0	6.97	3.60	1.02	255	255		
60	1.08	3.84	7.79	12.8	18.1	22.8	26.7	29.8	31.5	31.5	29.8	26.8	22.8	18.1	12.8	7.85	3.90	1.06	310	310		
50	1.11	4.10	8.60	14.3	20.6	26.4	31.1	34.5	36.5	36.6	34.6	31.1	26.3	20.6	14.4	8.63	4.16	1.10	355	355		
40	1.14	4.31	9.25	15.6	22.5	29.2	34.5	38.3	40.5	40.5	38.3	34.5	29.1	22.5	15.6	9.28	4.37	1.12	391	391		
30	1.15	4.47	9.71	16.4	23.8	30.9	36.8	41.0	43.2	43.1	40.9	36.8	30.8	23.7	16.4	9.75	4.53	1.14	415	415		
-30	1.16	4.56	9.96	16.8	24.4	31.7	37.8	42.3	44.6	44.6	42.2	37.8	31.6	24.4	16.9	10.0	4.62	1.16	427	427		
	1.16	4.56	9.95	16.8	24.4	31.6	37.8	42.2	44.6	44.6	42.2	37.7	31.6	24.4	16.8	9.99	4.61	1.15	427	427		
	1.15	4.46	9.67	16.3	23.6	30.7	36.7	41.1	43.3	43.2	40.9	36.6	30.6	23.6	16.3	9.68	4.50	1.14	414	414		
	1.13	4.29	9.18	15.4	22.3	29.0	34.5	38.6	40.6	40.4	38.4	34.4	28.8	22.2	15.4	9.17	4.33	1.12	390	390		
-40	1.11	4.07	8.50	14.2	20.4	26.3	31.4	34.9	36.5	36.4	34.7	31.1	26.1	20.2	14.1	8.49	4.10	1.09	354	354		
-50	1.08	3.82	7.69	12.6	17.9	23.0	27.2	30.1	31.3	31.2	29.9	26.9	22.7	17.7	12.5	7.67	3.83	1.05	309	309		
-60	1.05	3.55	6.79	10.7	14.9	18.9	22.3	24.4	25.0	24.9	24.1	22.0	18.7	14.7	10.6	6.76	3.53	1.01	255	255		
-70	1.00	3.29	5.89	8.84	11.7	14.5	16.6	17.8	17.9	17.8	17.6	16.3	14.2	11.5	8.73	5.85	3.22	0.97	194	194		
-80	0.96	3.01	5.13	7.06	8.62	9.95	10.8	11.2	10.8	10.7	11.0	10.6	9.76	8.48	6.91	4.99	2.90	0.93	134	134		
-90	0.91	2.69	4.34	5.60	6.24	6.43	6.10	5.30	4.17	4.12	5.12	5.81	6.10	5.93	5.33	4.15	2.58	0.88	81.8	75.9		
-90 -80 -70 -60 -50 -40 -30 -20 HORIZONTAL (DEG) 20 30 40 50 60 70 80 90																						
Φ t	19.2	67.6	135	217	302	381	446	491	510	510	489	444	379	300	216	135	67.8	18.8	5798			
Φ a	19.2	67.6	135	217	302	381	445	488	507	506	487	443	379	300	216	135	67.8	18.8		5440		

Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14日

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

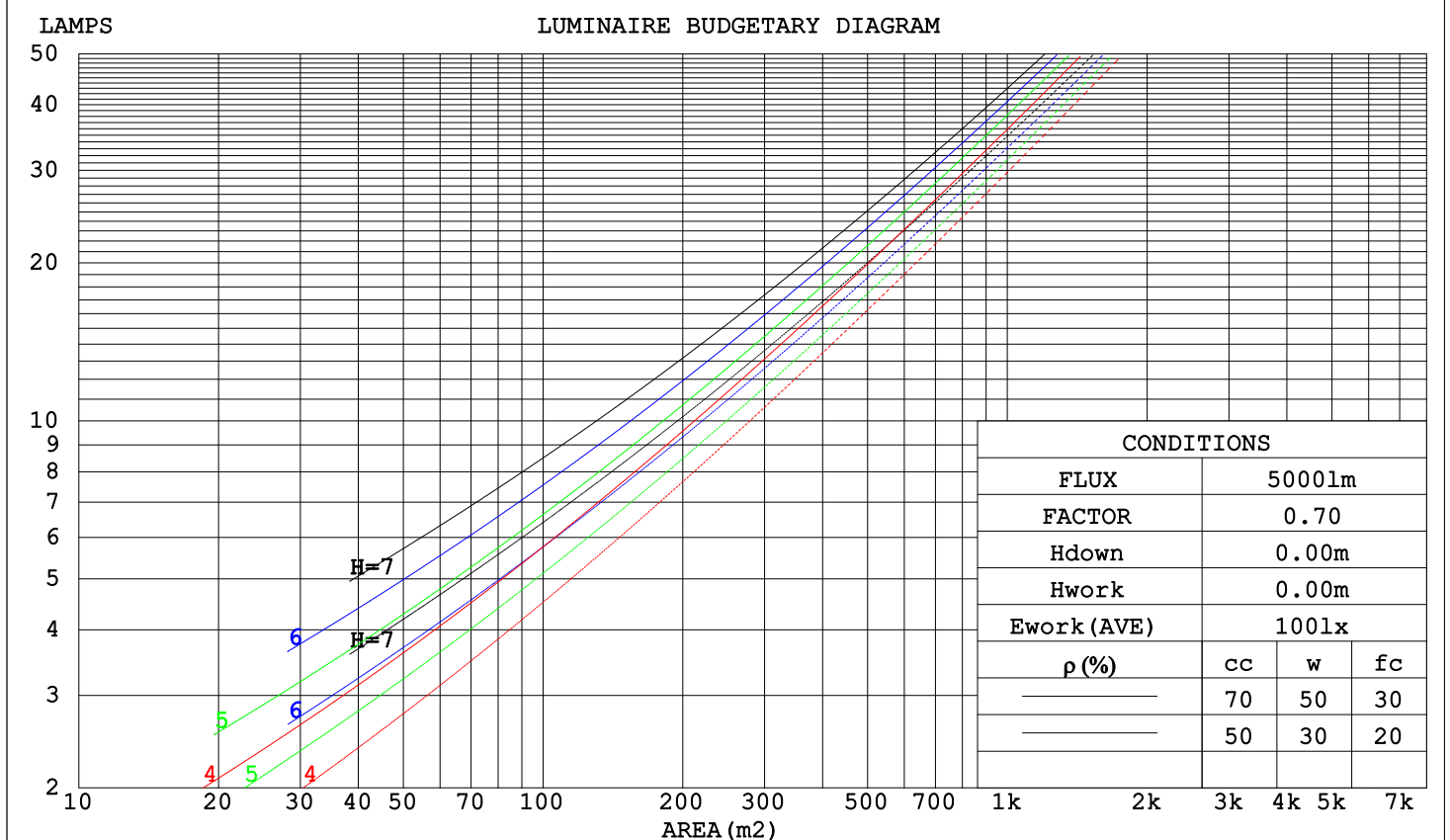
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: 1.5M-40W-4000K								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 1500*152*52mm				SERIAL No.:			

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															



Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2022年11月14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: 1.5M-40W-4000K								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 1500*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	.360	.205	.065	.350	.199	.063	.330	.189	.060	.311	.180	.058	.294	.171	.055	
2.0	.320	.176	.054	.311	.171	.053	.293	.163	.051	.276	.155	.048	.261	.147	.047	
3.0	.288	.153	.046	.280	.150	.045	.264	.143	.043	.249	.136	.042	.235	.130	.040	
4.0	.262	.136	.040	.254	.133	.039	.239	.127	.038	.226	.121	.037	.213	.116	.035	
5.0	.239	.122	.035	.232	.119	.035	.219	.114	.034	.207	.109	.032	.195	.104	.031	
6.0	.220	.110	.032	.214	.108	.031	.202	.103	.030	.191	.099	.029	.180	.095	.028	
7.0	.203	.101	.029	.198	.099	.028	.187	.094	.027	.177	.091	.026	.167	.087	.026	
8.0	.189	.092	.026	.184	.091	.026	.174	.087	.025	.165	.083	.024	.156	.080	.023	
9.0	.177	.085	.024	.172	.084	.023	.163	.080	.023	.154	.077	.022	.146	.074	.021	
10.0	.165	.079	.022	.161	.078	.022	.153	.075	.021	.145	.072	.020	.137	.069	.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	.278	.278	.278	.238	.238	.238	.162	.162	.162	.093	.093	.093	.030	.030	.030	
1.0	.272	.244	.219	.233	.210	.188	.159	.144	.130	.092	.083	.076	.029	.027	.024	
2.0	.265	.221	.184	.227	.190	.159	.156	.132	.111	.090	.076	.065	.029	.025	.021	
3.0	.258	.204	.161	.221	.176	.140	.152	.122	.098	.088	.071	.058	.028	.023	.019	
4.0	.250	.191	.146	.214	.165	.127	.147	.115	.090	.085	.067	.053	.027	.022	.017	
5.0	.242	.181	.136	.208	.157	.118	.143	.110	.084	.083	.064	.050	.027	.021	.016	
6.0	.235	.173	.129	.202	.150	.112	.139	.105	.079	.081	.062	.047	.026	.020	.016	
7.0	.228	.166	.123	.196	.144	.107	.135	.101	.076	.079	.060	.045	.025	.020	.015	
8.0	.221	.161	.119	.190	.139	.104	.132	.098	.074	.077	.058	.044	.025	.019	.015	
9.0	.215	.156	.116	.185	.135	.101	.128	.095	.072	.075	.056	.043	.024	.018	.014	
10.0	.209	.152	.113	.180	.132	.099	.125	.093	.070	.073	.055	.042	.024	.018	.014	

Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2022年11月14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: 1.5M-40W-4000K					TYPE:			WEIGHT:			
SPECIFICATION:					DIMENSION: 1500*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	18.4	19.8	18.8	20.2	20.7	17.6	19.0	18.0	19.4	19.9
	3H	20.5	21.8	21.0	22.3	22.7	19.2	20.5	19.7	21.0	21.5
	4H	21.6	22.9	22.1	23.3	23.8	19.9	21.2	20.4	21.6	22.1
	6H	22.8	24.0	23.3	24.5	25.0	20.5	21.7	21.0	22.1	22.7
	8H	23.5	24.6	24.0	25.1	25.6	20.7	21.8	21.2	22.3	22.8
	12H	24.2	25.3	24.7	25.8	26.3	20.8	21.9	21.3	22.4	23.0
4H	2H	19.0	20.3	19.5	20.7	21.2	18.4	19.6	18.9	20.1	20.6
	3H	21.3	22.4	21.8	22.9	23.5	20.3	21.4	20.8	21.9	22.4
	4H	22.6	23.6	23.1	24.1	24.7	21.1	22.1	21.7	22.6	23.2
	6H	24.0	24.9	24.5	25.4	26.0	21.8	22.7	22.4	23.3	23.9
	8H	24.7	25.6	25.3	26.1	26.8	22.1	22.9	22.7	23.5	24.1
	12H	25.6	26.4	26.2	27.0	27.6	22.3	23.1	22.9	23.7	24.3
8H	4H	22.9	23.7	23.5	24.3	24.9	21.7	22.5	22.2	23.1	23.7
	6H	24.6	25.3	25.2	25.9	26.5	22.6	23.3	23.2	23.9	24.6
	8H	25.5	26.2	26.1	26.8	27.5	23.1	23.7	23.7	24.3	25.0
	12H	26.6	27.2	27.3	27.8	28.5	23.5	24.0	24.1	24.6	25.4
12H	4H	22.9	23.7	23.5	24.3	24.9	21.8	22.6	22.4	23.2	23.8
	6H	24.7	25.3	25.3	25.9	26.6	22.9	23.5	23.5	24.2	24.8
	8H	25.7	26.3	26.4	26.9	27.6	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 / - 0.2				
1.5H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H		+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 5798 lm Total Lamp Luminous Flux.(8log(F/F0) = 6.1)

Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2022年11月14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: 1.5M-40W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*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) $k(RI) \times RCR = 5$									
$k = 0.60$	51	39	32	50	38	31	48	38	31	24
0.80	60	48	40	59	47	40	57	46	39	31
1.00	69	56	48	67	55	48	64	56	47	38
1.25	76	64	56	73	62	55	70	60	53	44
1.50	81	69	61	78	68	60	74	65	59	49
2.00	88	78	70	85	76	69	80	72	66	56
2.50	92	83	76	89	81	74	84	77	71	60
3.00	96	87	81	93	85	79	87	81	75	64
4.00	100	93	87	97	90	85	91	85	81	69
5.00	103	97	92	99	94	89	93	89	85	72
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

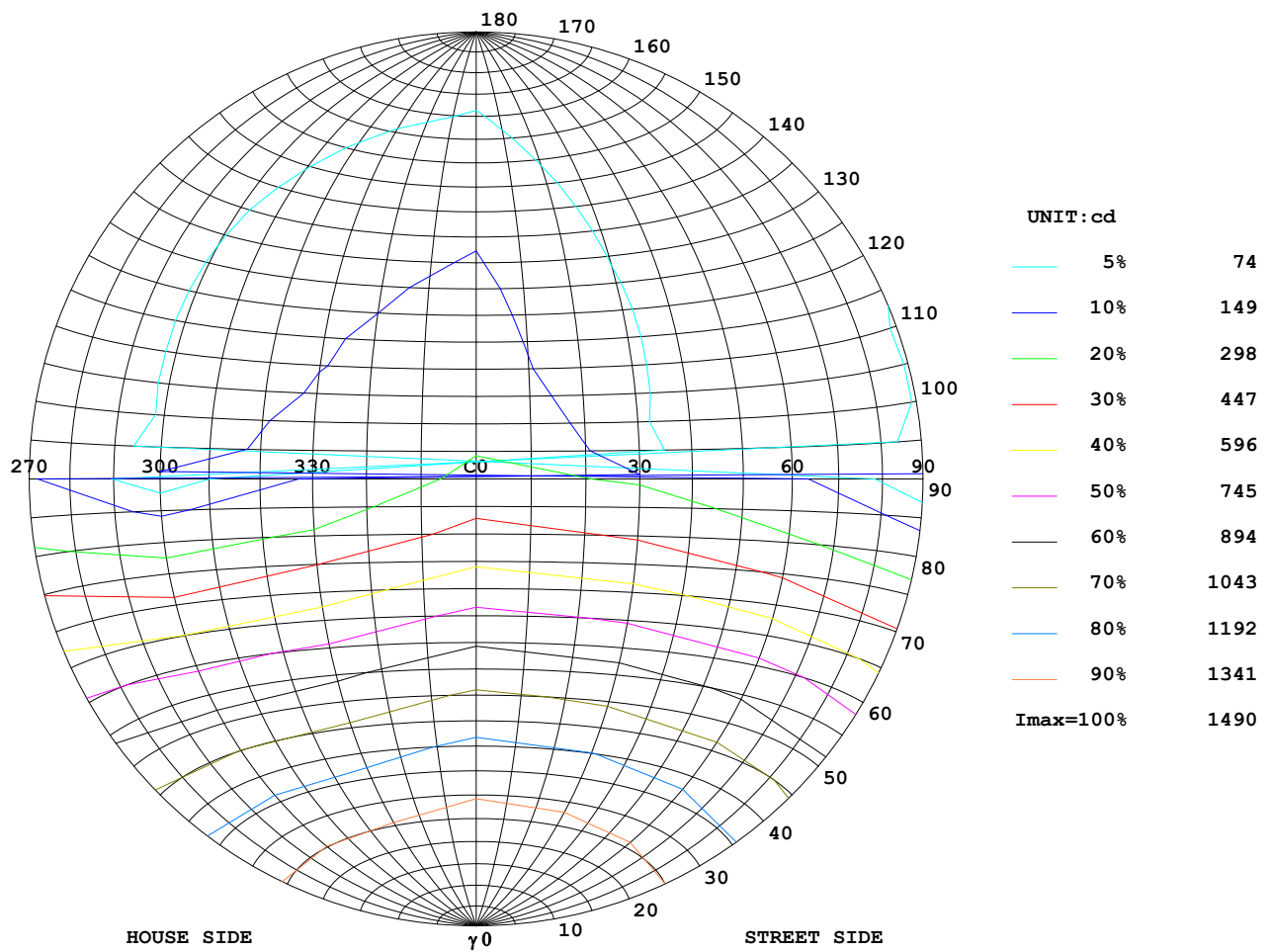
Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2022年11月14日

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: 1.5M-40W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14日

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

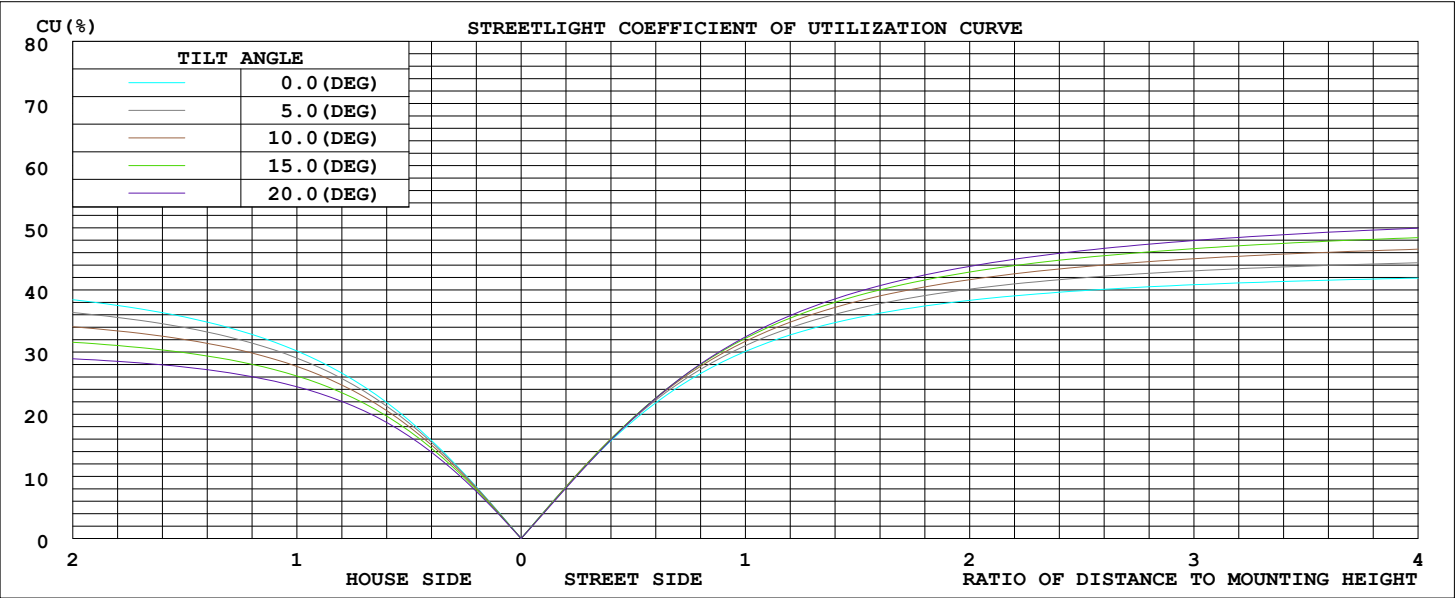
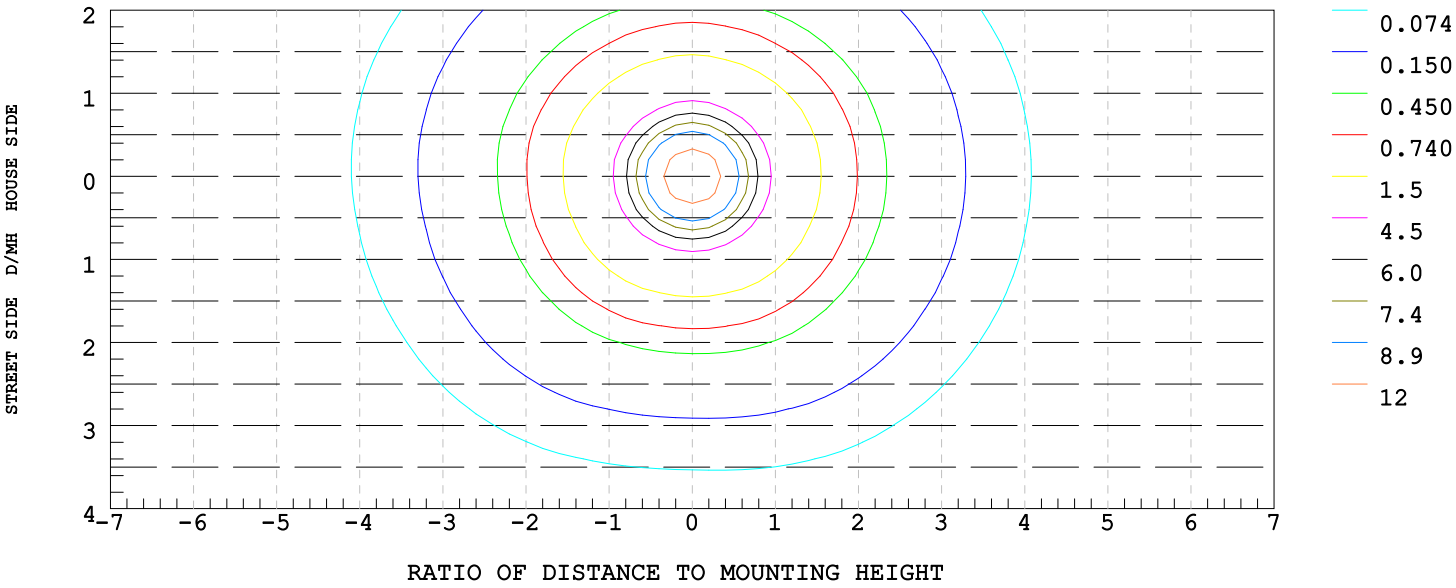
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.5M-40W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:

ILLUMINANCE AT MH=10 m,Enadir = 14.89 lx



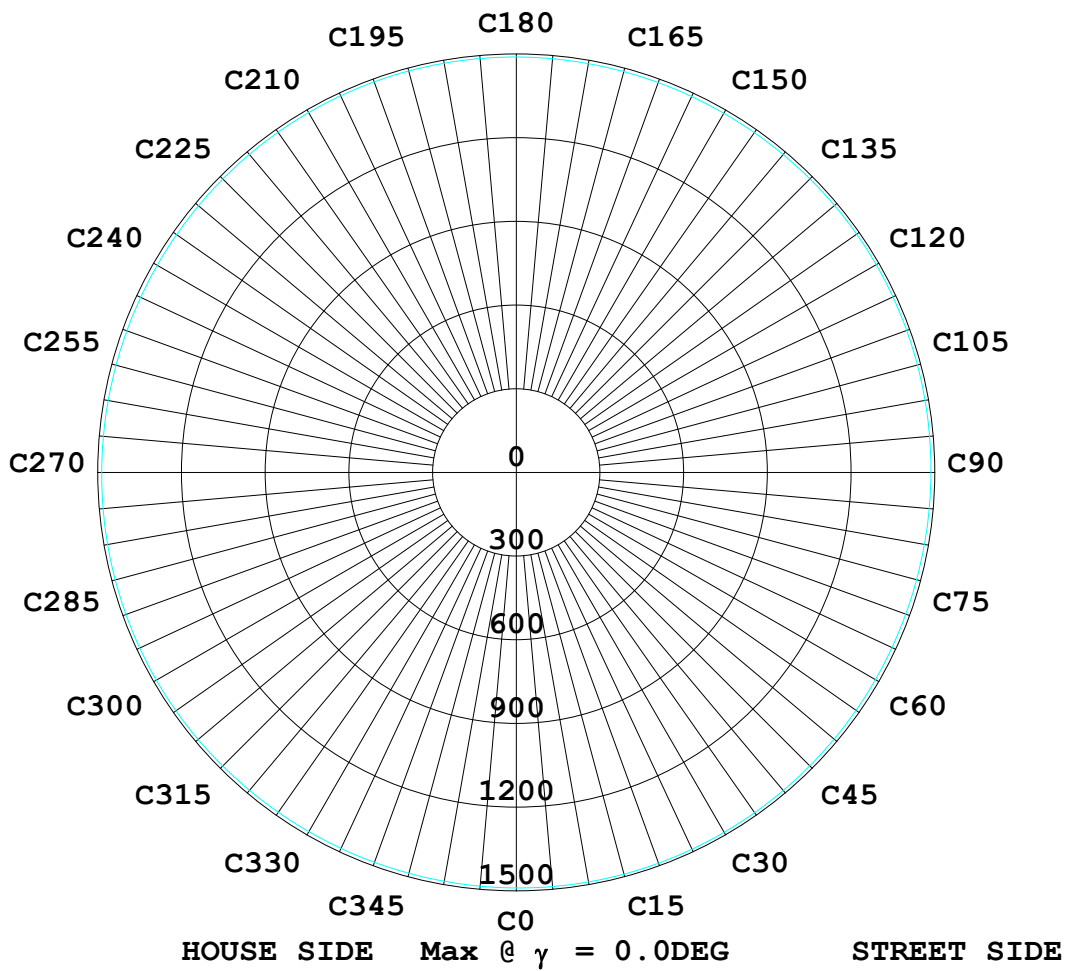
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14日

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: 1.5M-40W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14日

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