

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

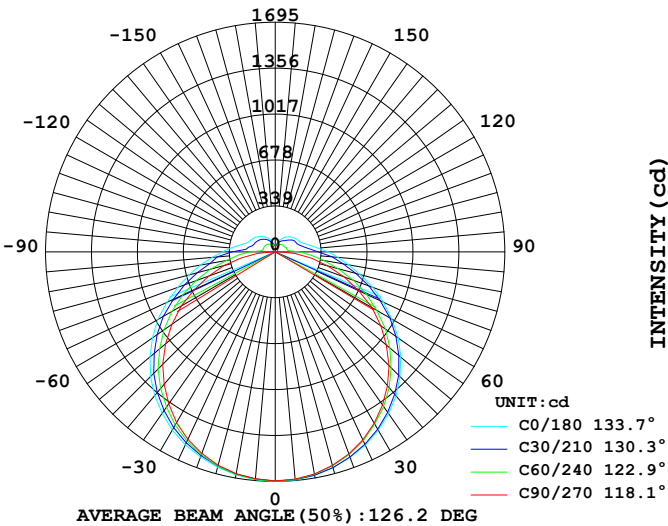
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

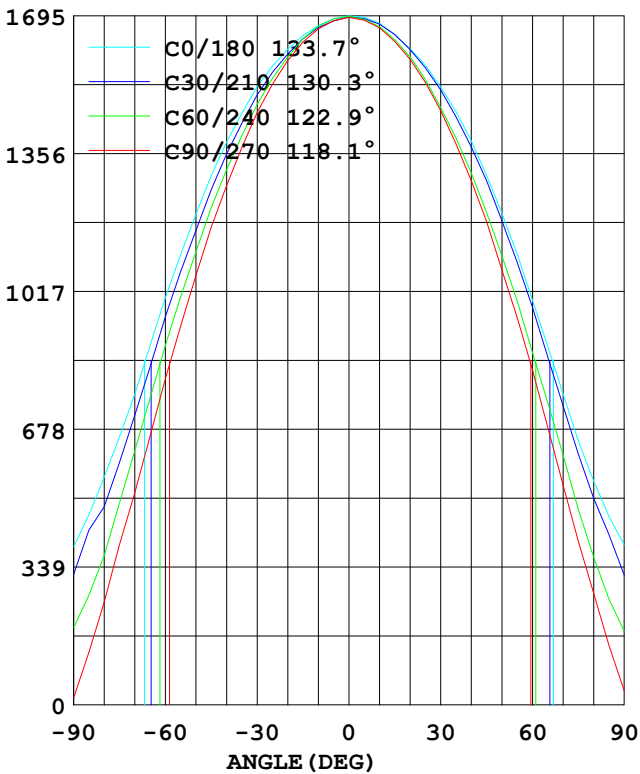
MANUFACTURER:		
Address:		
NAME: 1.5M-50W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:

DATA OF LAMP		Imax(cd)	1695	S/MH(C0/180)	1.34
MODEL		EFFICIENCY(%)	100.0	S/MH(C90/270)	1.28
NOMINAL POWER(W)	50	TOTAL FLUX(lm)	6590.0	Voltage(V)	219.8
RATED VOLTAGE(V)	220	EFFICIENCY(lm/W)	133.8	Current(A)	0.230
NOMINAL FLUX(lm)	6590.1	η up(%)	11.5	Power(W)	49.25
LAMPS QUANTITY	1	η down(%)	88.5	Power Factor(PF)	0.971
TEST VOLTAGE(V)	219.8	Effective Flux(lm)	6171.9	EEI	0.109

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



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

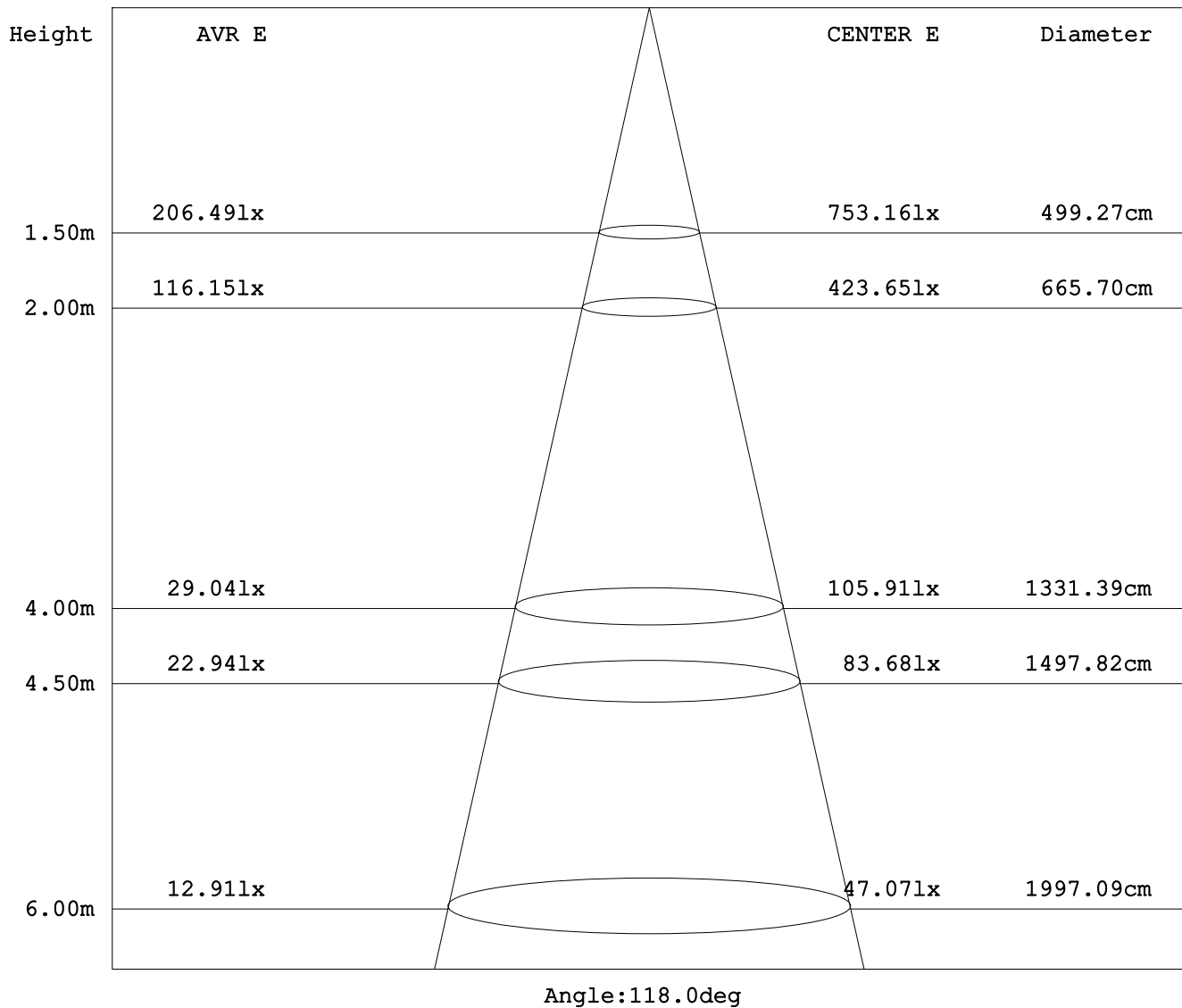
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME: 1.5M-50W-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-50W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Zone	total
10.0	1670	1667	1662	1673	1676	1671	1665	1667	0- 10	160.4	160.4
20.0	1612	1597	1584	1605	1613	1602	1588	1598	10- 20	463.3	623.7
30.0	1520	1488	1456	1495	1519	1490	1462	1489	20- 30	715.3	1339
40.0	1383	1335	1276	1345	1387	1340	1289	1340	30- 40	888.1	2227
50.0	1206	1140	1056	1150	1209	1148	1070	1146	40- 50	961.4	3189
60.0	1001	919.0	802.3	929.1	995.3	922.5	824.0	922.0	50- 60	924.5	4113
70.0	764.1	668.9	521.7	678.5	765.5	675.7	541.3	674.7	60- 70	784.2	4898
80.0	560.2	427.3	253.0	439.8	551.1	436.3	275.1	439.0	70- 80	575.1	5473
90.0	389.1	255.3	17.42	270.7	393.1	249.6	33.88	245.9	80- 90	362.6	5835
100.0	276.4	145.8	5.929	156.1	268.4	151.6	12.34	157.1	90-100	200.1	6036
110.0	212.3	128.9	10.76	133.4	203.1	131.1	16.21	138.2	100-110	143.6	6179
120.0	193.3	122.9	16.33	119.9	185.6	119.5	21.29	131.2	110-120	120.5	6300
130.0	173.8	112.6	23.11	109.3	167.5	106.1	25.89	119.5	120-130	101.0	6401
140.0	149.7	99.09	30.49	92.02	146.1	90.32	32.06	104.1	130-140	78.14	6479
150.0	120.0	82.46	36.90	76.77	120.7	79.01	38.35	86.39	140-150	54.96	6534
160.0	88.20	65.34	42.47	64.00	92.32	65.21	43.92	68.66	150-160	34.08	6568
170.0	60.01	54.87	48.03	52.51	63.28	53.05	49.12	56.80	160-170	17.13	6585
180.0	53.72	51.30	51.78	51.66	53.48	51.60	52.99	51.66	170-180	5.037	6590
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:

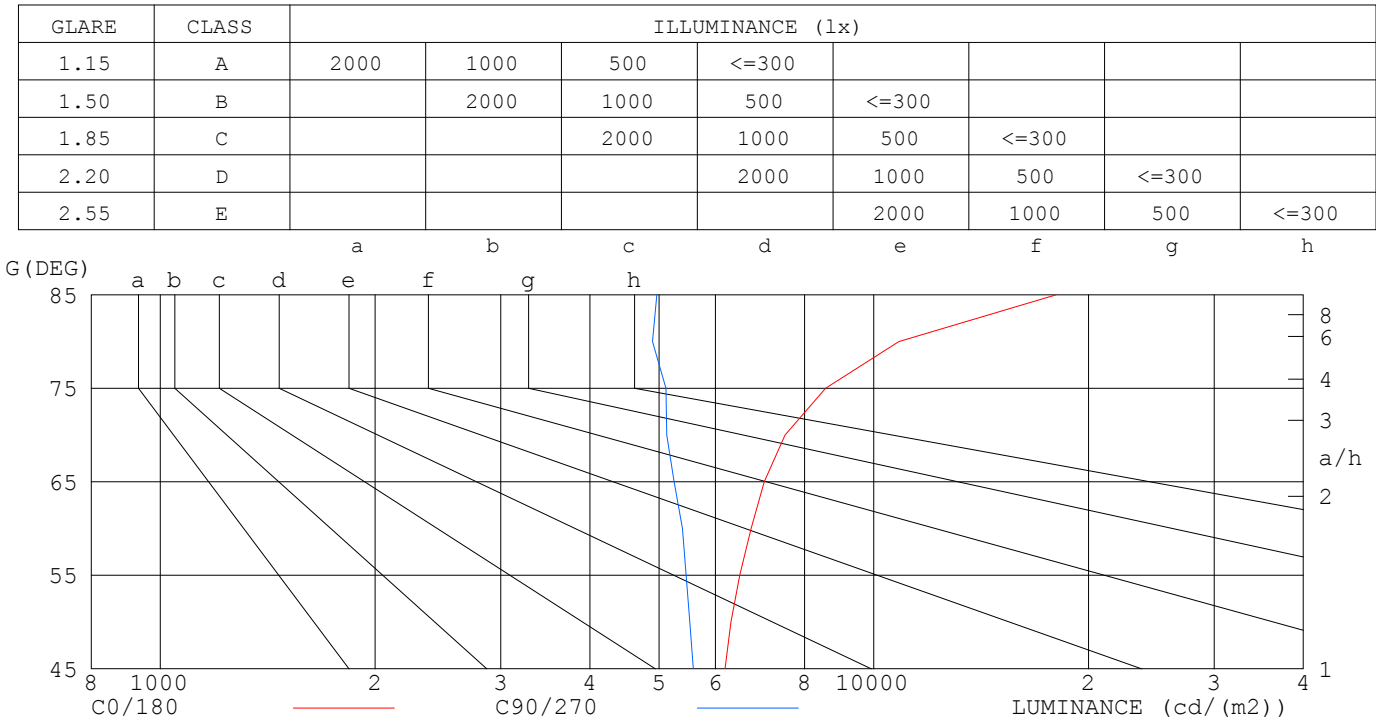
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:					
Address:					
NAME: 1.5M-50W-4000K		TYPE:		WEIGHT:	
SPECIFICATION:		DIMENSION: 1500*152*52mm		SERIAL No.:	

LUMINANCE LIMITATION CURVES



LUMINANCE cd/ (m2)		
G (DEG)	C0/180	C90/270
85	18007	4965
80	10843	4897
75	8559	5115
70	7509	5127
65	7024	5251
60	6731	5393
55	6487	5456
50	6308	5522
45	6187	5586

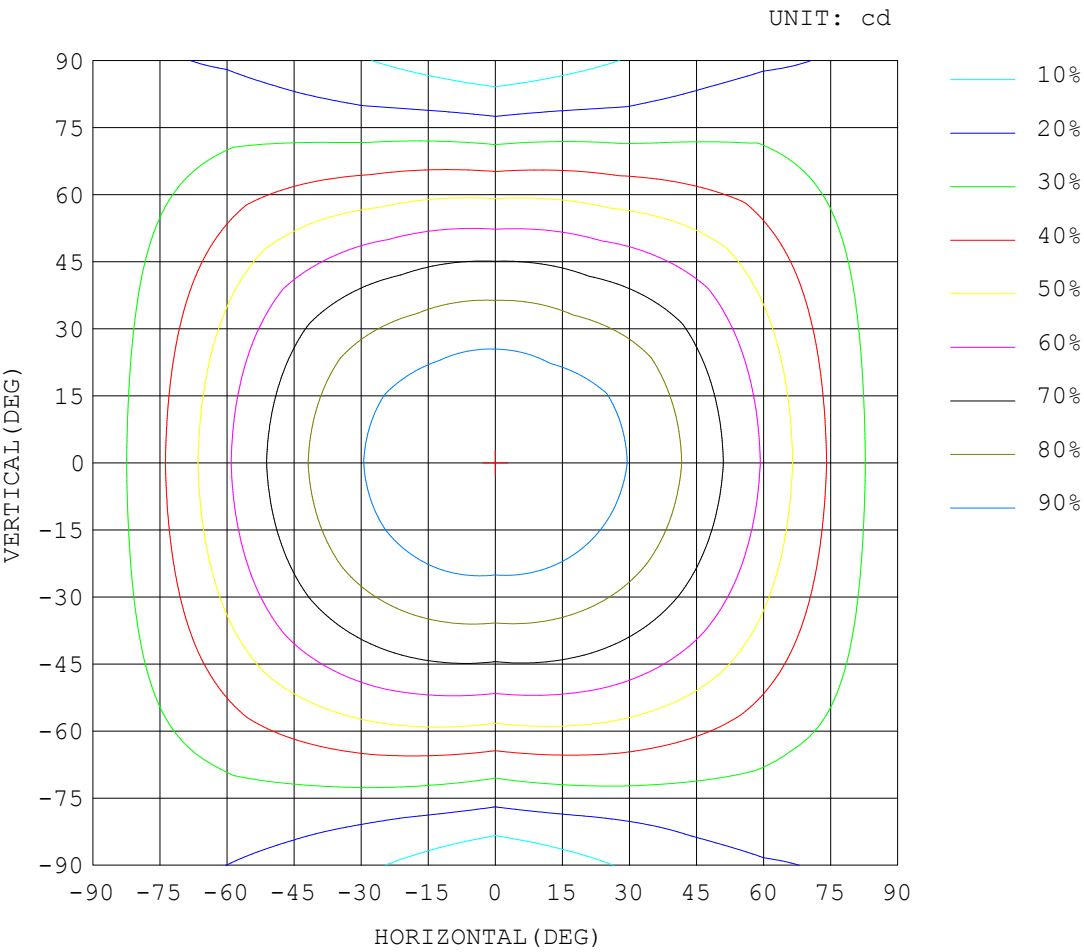
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年11月14日

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-50W-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

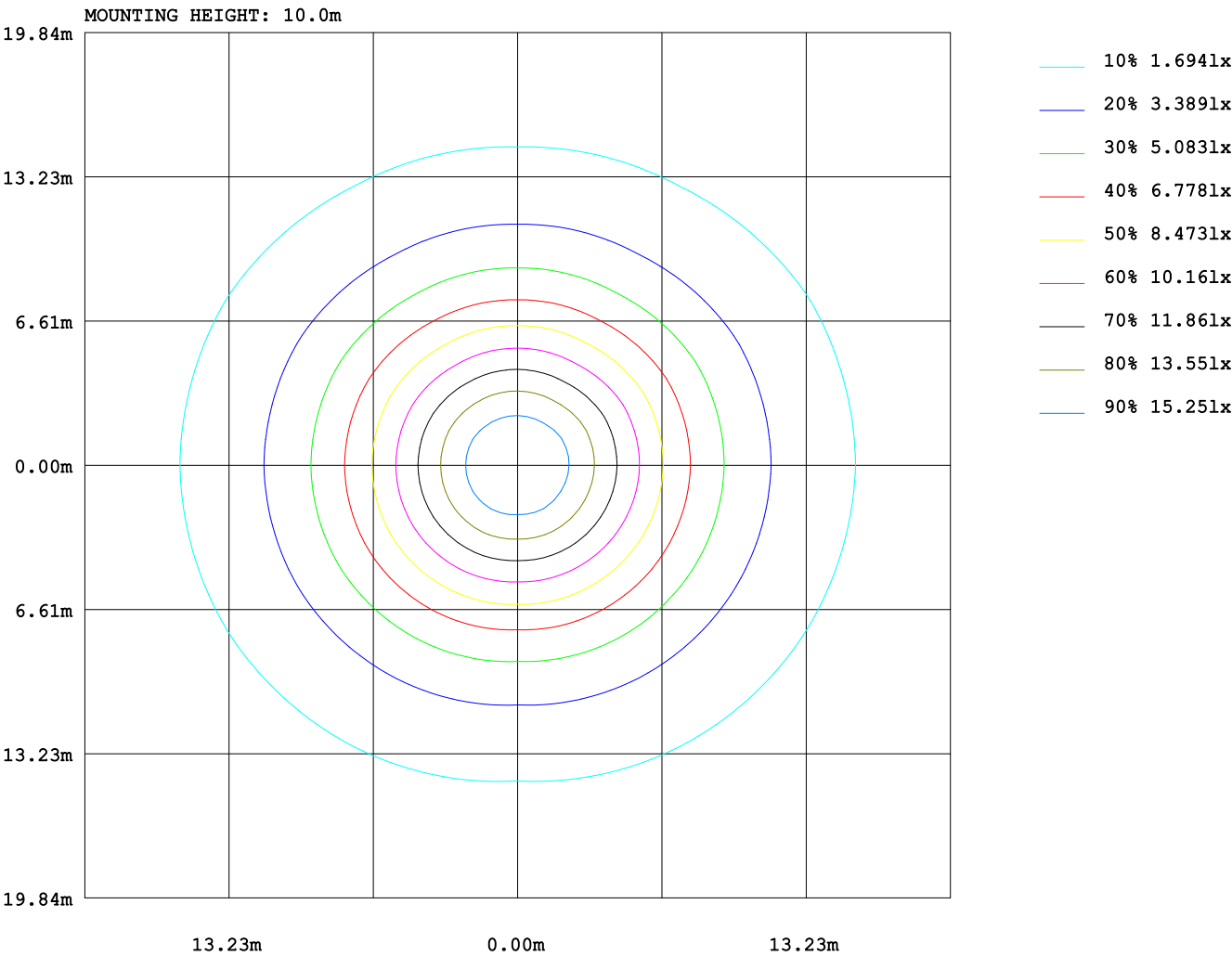
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.5M-50W-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-50W-4000K										TYPE:					WEIGHT:				
SPECIFICATION:										DIMENSION: 1500*152*52mm					SERIAL No.:				

		AREA FLUX DIAGRAM																UNIT:lm			Φ t	Φ a
		1.02	2.97	4.77	6.12	6.75	6.83	6.55	6.01	5.12	5.11	5.98	6.51	6.81	6.76	6.14	4.76	2.95	1.01	92.2	85.2	
VERTICAL (DEG)	90	1.07	3.33	5.79	8.07	9.78	11.0	12.0	12.7	12.6	12.6	11.9	11.0	9.85	8.20	5.89	3.36	1.06	153	153		
	80	1.11	3.69	6.78	10.2	13.3	16.2	18.5	20.2	20.9	20.8	20.1	18.4	16.1	13.4	10.3	6.91	3.74	1.11	222	222	
	70	1.16	4.03	7.84	12.4	17.0	21.3	24.8	27.6	28.8	28.8	27.5	24.7	21.2	17.1	12.5	7.96	4.10	1.16	291	291	
	60	1.20	4.37	8.87	14.5	20.5	26.0	30.5	34.0	35.8	35.8	33.9	30.4	26.0	20.6	14.6	8.95	4.44	1.21	352	352	
	50	1.23	4.66	9.79	16.3	23.5	30.0	35.4	39.4	41.6	41.6	39.3	35.4	30.0	23.5	16.4	9.83	4.74	1.25	404	404	
	40	1.26	4.91	10.5	17.7	25.6	33.1	39.2	43.6	46.1	46.0	43.4	39.2	33.2	25.6	17.8	10.5	4.98	1.28	445	445	
	30	1.29	5.10	11.0	18.7	27.0	35.1	41.9	46.6	49.2	49.0	46.5	41.9	35.1	27.1	18.7	11.0	5.16	1.30	472	472	
	20	1.30	5.21	11.3	19.2	27.8	36.1	43.0	48.1	50.8	50.7	48.1	43.0	36.0	27.8	19.2	11.3	5.26	1.31	486	486	
	10	1.30	5.20	11.3	19.2	27.8	36.0	43.0	48.1	50.8	50.7	47.9	42.9	35.9	27.7	19.2	11.3	5.25	1.31	486	486	
	0	1.29	5.09	11.0	18.6	26.9	35.0	41.8	46.7	49.2	49.1	46.5	41.6	34.8	26.8	18.5	11.0	5.13	1.30	471	471	
	-10	1.27	4.90	10.4	17.6	25.4	33.0	39.3	43.9	46.1	46.1	43.7	39.1	32.7	25.2	17.5	10.4	4.93	1.27	444	444	
	-20	1.24	4.64	9.72	16.2	23.3	30.0	35.7	39.7	41.5	41.5	39.5	35.5	29.7	23.0	16.0	9.64	4.67	1.24	403	403	
	-30	1.20	4.35	8.79	14.4	20.4	26.1	30.9	34.2	35.6	35.6	34.1	30.7	25.9	20.2	14.2	8.71	4.35	1.21	351	351	
	-40	1.16	4.02	7.76	12.3	17.0	21.5	25.3	27.7	28.5	28.4	27.5	25.1	21.3	16.8	12.1	7.68	4.02	1.16	290	290	
	-50	1.12	3.70	6.72	10.1	13.4	16.5	18.9	20.3	20.4	20.4	20.1	18.7	16.2	13.2	9.89	6.63	3.71	1.12	222	222	
	-60	1.07	3.38	5.84	8.08	9.90	11.4	12.4	12.8	12.3	12.3	12.6	12.2	11.1	9.66	7.92	5.81	3.37	1.07	154	154	
-70	1.03	3.04	4.94	6.38	7.11	7.31	6.94	6.04	4.76	4.70	5.85	6.65	7.02	6.90	6.24	4.83	2.98	1.01	93.7	87.0		
-80																						
-90																						
		-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)				20	30	40	50	60	70	80	90	
Φ t	21.4	76.6	153	247	343	433	507	558	581	580	556	504	431	342	246	153	77.2	21.4	6590			
Φ a	21.4	76.6	153	247	343	433	506	556	577	576	553	504	431	342	246	153	77.2	21.4		6172		

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:

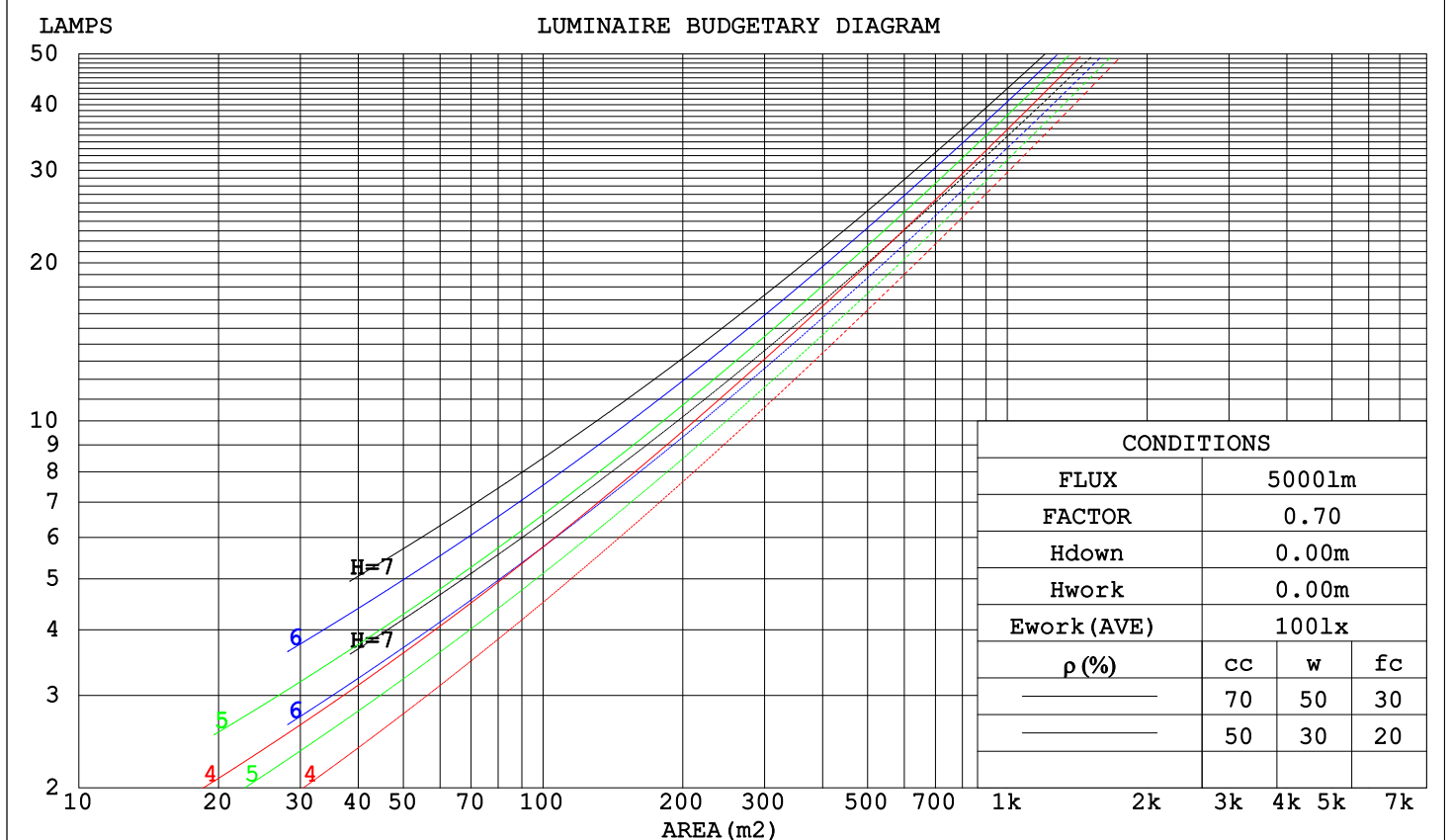
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:									
Address:									
NAME: 1.5M-50W-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-50W-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	.349	.199	.063	.329	.189	.060	.311	.179	.058	.294	.171	.055	
2.0	.320	.176	.054	.311	.171	.053	.293	.163	.051	.276	.155	.048	.261	.148	.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	.237	.237	.237	.162	.162	.162	.093	.093	.093	.030	.030	.030	
1.0	.272	.244	.218	.233	.209	.188	.159	.144	.130	.092	.083	.076	.029	.027	.024	
2.0	.265	.220	.183	.227	.190	.158	.155	.131	.110	.090	.076	.065	.029	.025	.021	
3.0	.257	.203	.161	.220	.176	.139	.151	.122	.098	.087	.071	.058	.028	.023	.019	
4.0	.249	.191	.146	.214	.165	.127	.147	.115	.089	.085	.067	.053	.027	.022	.017	
5.0	.242	.181	.136	.208	.156	.118	.143	.109	.083	.083	.064	.049	.027	.021	.016	
6.0	.234	.173	.128	.201	.149	.112	.139	.105	.079	.081	.062	.047	.026	.020	.016	
7.0	.227	.166	.123	.196	.144	.107	.135	.101	.076	.079	.059	.045	.025	.019	.015	
8.0	.221	.160	.119	.190	.139	.103	.132	.098	.073	.077	.058	.044	.025	.019	.014	
9.0	.215	.155	.115	.185	.135	.101	.128	.095	.072	.075	.056	.043	.024	.018	.014	
10.0	.209	.151	.113	.180	.131	.099	.125	.092	.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-50W-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	18.8	20.3	19.3	20.7	21.1	18.1	19.5	18.5	19.9	20.3	
3H	20.9	22.3	21.4	22.7	23.2	19.7	21.0	20.2	21.5	21.9	
4H	22.0	23.3	22.5	23.8	24.3	20.4	21.7	20.9	22.1	22.6	
6H	23.2	24.4	23.7	24.9	25.4	21.0	22.1	21.5	22.6	23.1	
8H	23.9	25.0	24.4	25.5	26.1	21.2	22.3	21.7	22.8	23.3	
12H	24.6	25.7	25.2	26.2	26.8	21.3	22.4	21.8	22.9	23.5	
4H 2H	19.4	20.7	19.9	21.2	21.6	18.9	20.1	19.3	20.6	21.1	
3H	21.8	22.9	22.3	23.4	23.9	20.7	21.8	21.3	22.3	22.9	
4H	23.0	24.0	23.5	24.5	25.1	21.6	22.6	22.1	23.1	23.7	
6H	24.4	25.3	25.0	25.8	26.5	22.3	23.2	22.9	23.8	24.4	
8H	25.2	26.0	25.8	26.6	27.2	22.6	23.4	23.2	24.0	24.6	
12H	26.1	26.8	26.7	27.4	28.1	22.8	23.6	23.4	24.2	24.8	
8H 4H	23.3	24.2	23.9	24.7	25.4	22.1	23.0	22.7	23.5	24.2	
6H	25.0	25.7	25.6	26.3	27.0	23.1	23.8	23.7	24.4	25.1	
8H	26.0	26.6	26.6	27.3	28.0	23.6	24.2	24.2	24.8	25.5	
12H	27.1	27.7	27.8	28.3	29.1	23.9	24.5	24.6	25.1	25.8	
12H 4H	23.3	24.1	23.9	24.7	25.4	22.3	23.1	22.9	23.6	24.3	
6H	25.1	25.8	25.8	26.4	27.1	23.4	24.0	24.0	24.7	25.3	
8H	26.2	26.8	26.9	27.4	28.1	24.0	24.5	24.6	25.2	25.9	
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 6590 lm Total Lamp Luminous Flux. (8log(F/F0) = 6.6)

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-50W-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	61	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	63	55	70	60	54	45
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	76	64
4.00	100	93	87	97	90	85	91	86	81	69
5.00	103	97	92	100	94	89	93	89	85	72
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

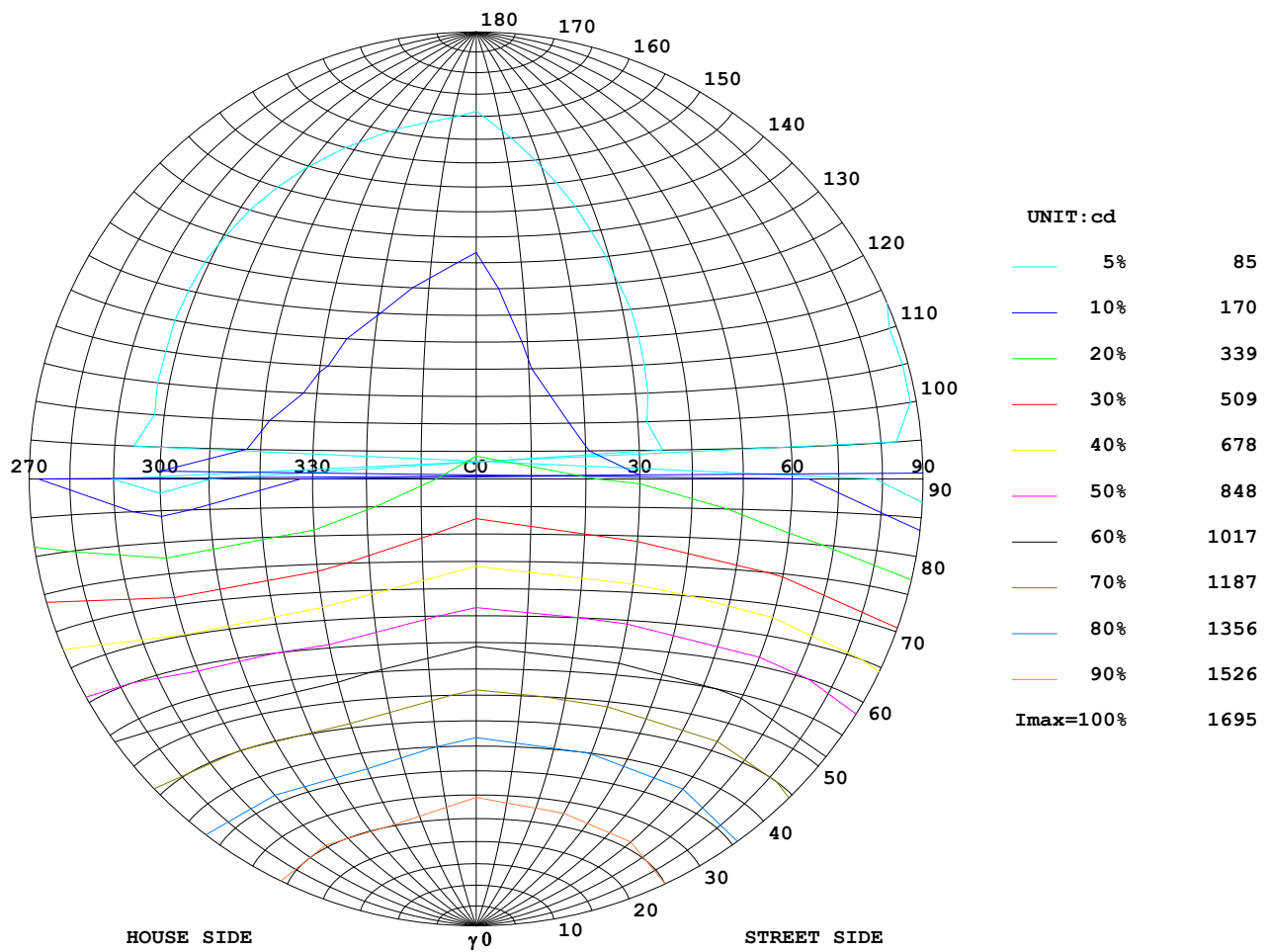
Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2022年11月14日

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-50W-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:

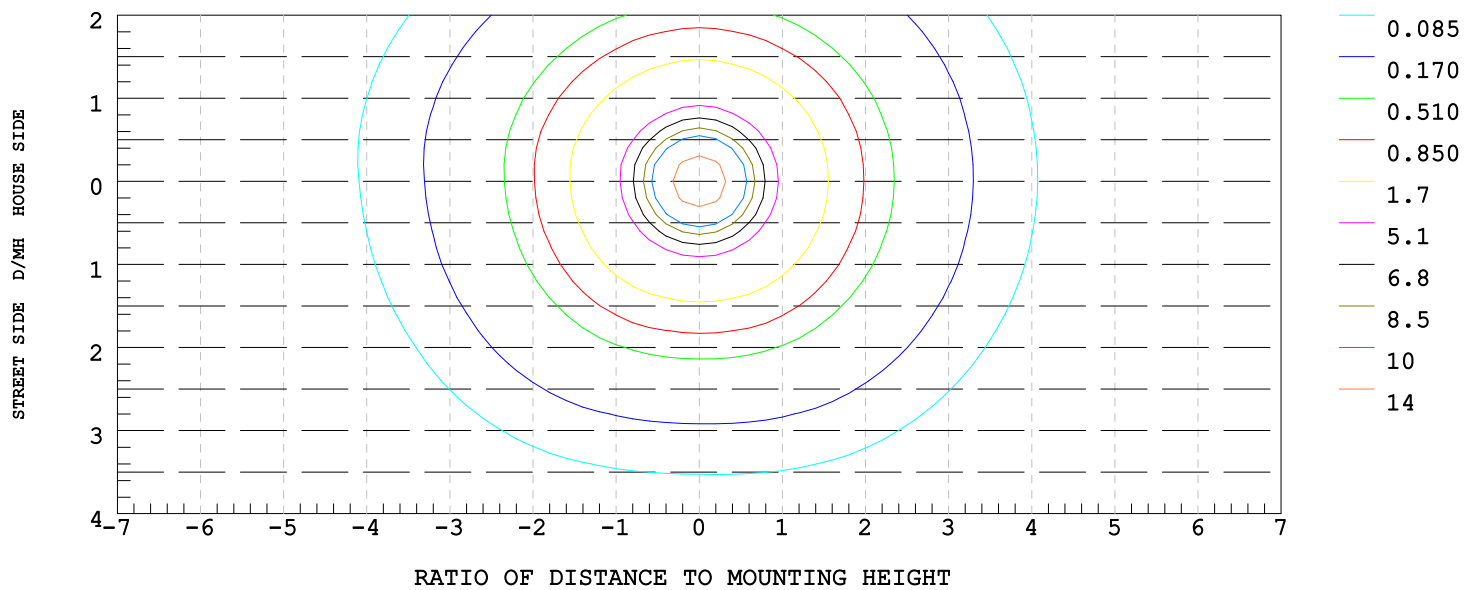
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.5M-50W-4000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1500*152*52mm	SERIAL No.:

ILLUMINANCE AT MH=10 m, Enadir = 16.95 lx



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

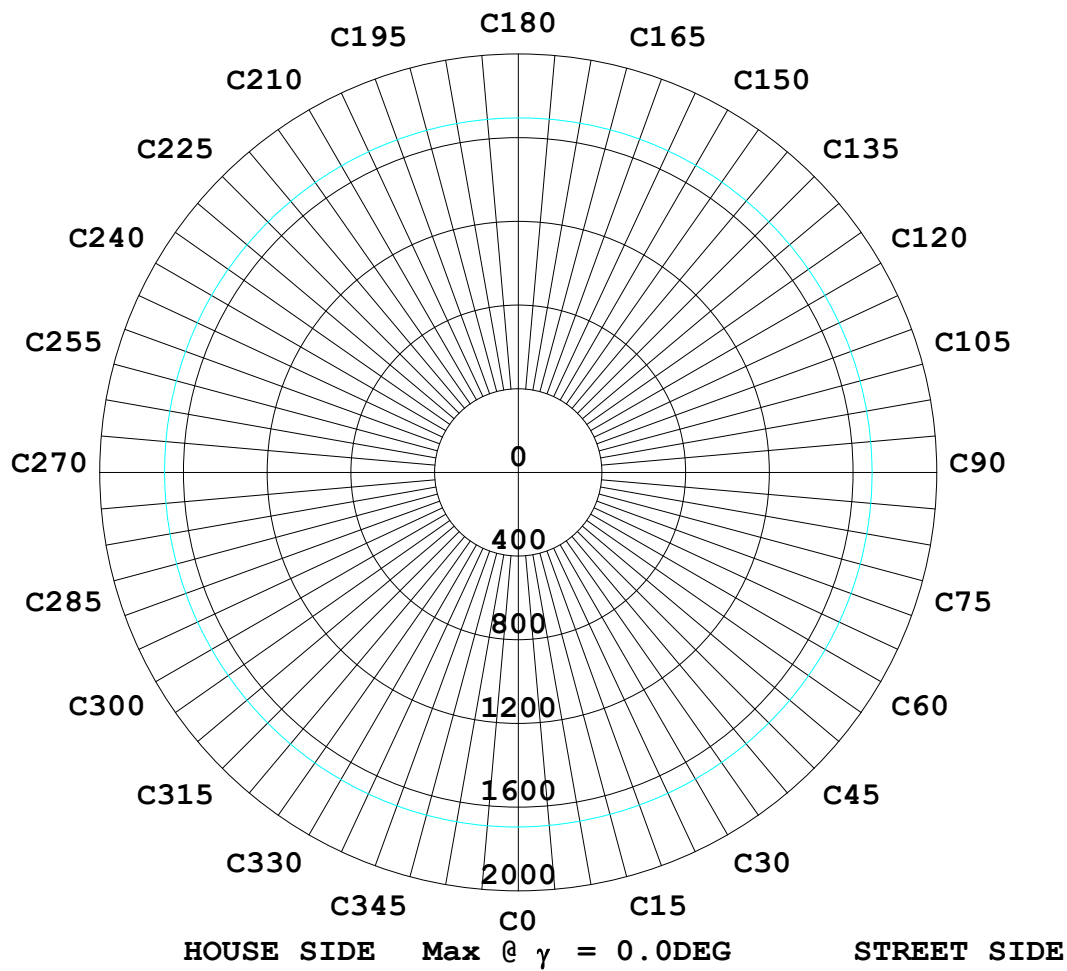
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.5M-50W-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: