

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

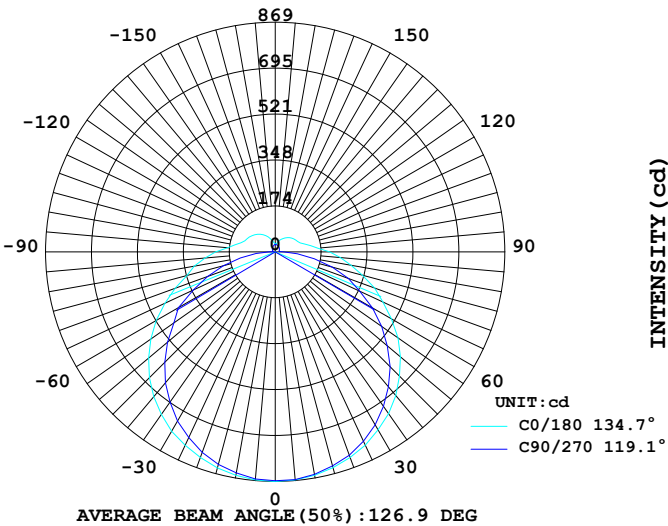
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

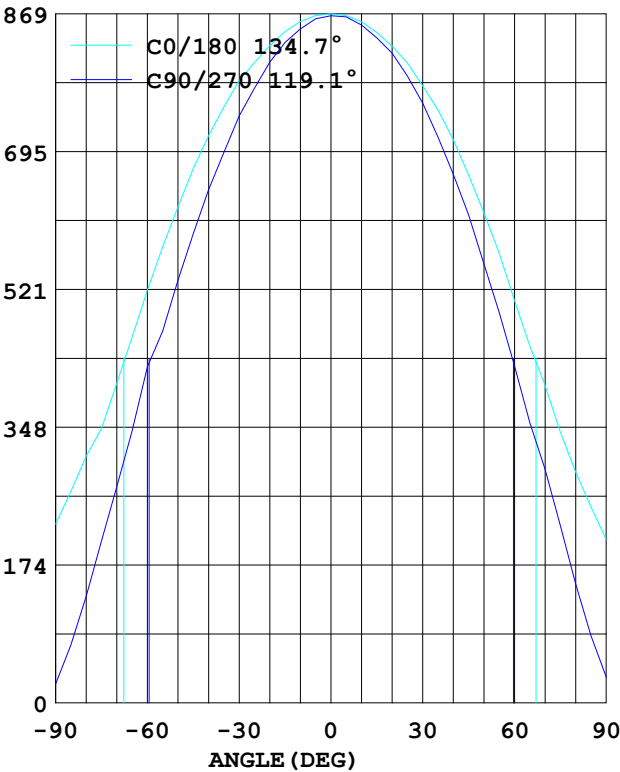
MANUFACTURER:		
Address:		
NAME: 1.2M-28W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:

DATA OF LAMP		Imax(cd)	869.1	S/MH (C0/180)	1.34
MODEL		EFFICIENCY (%)	100.0	S/MH (C90/270)	1.27
NOMINAL POWER(W)	28	TOTAL FLUX(lm)	3426.6	Voltage(V)	220.0
RATED VOLTAGE (V)	220	EFFICIENCY (lm/W)	118.8	Current(A)	0.134
NOMINAL FLUX(lm)	3426.6	η up (%)	12.1	Power (W)	28.85
LAMPS QUANTITY	1	η down (%)	87.9	Power Factor (PF)	0.976
TEST VOLTAGE (V)	220.0	Effective Flux(lm)	3207.9	EEI	0.123

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



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

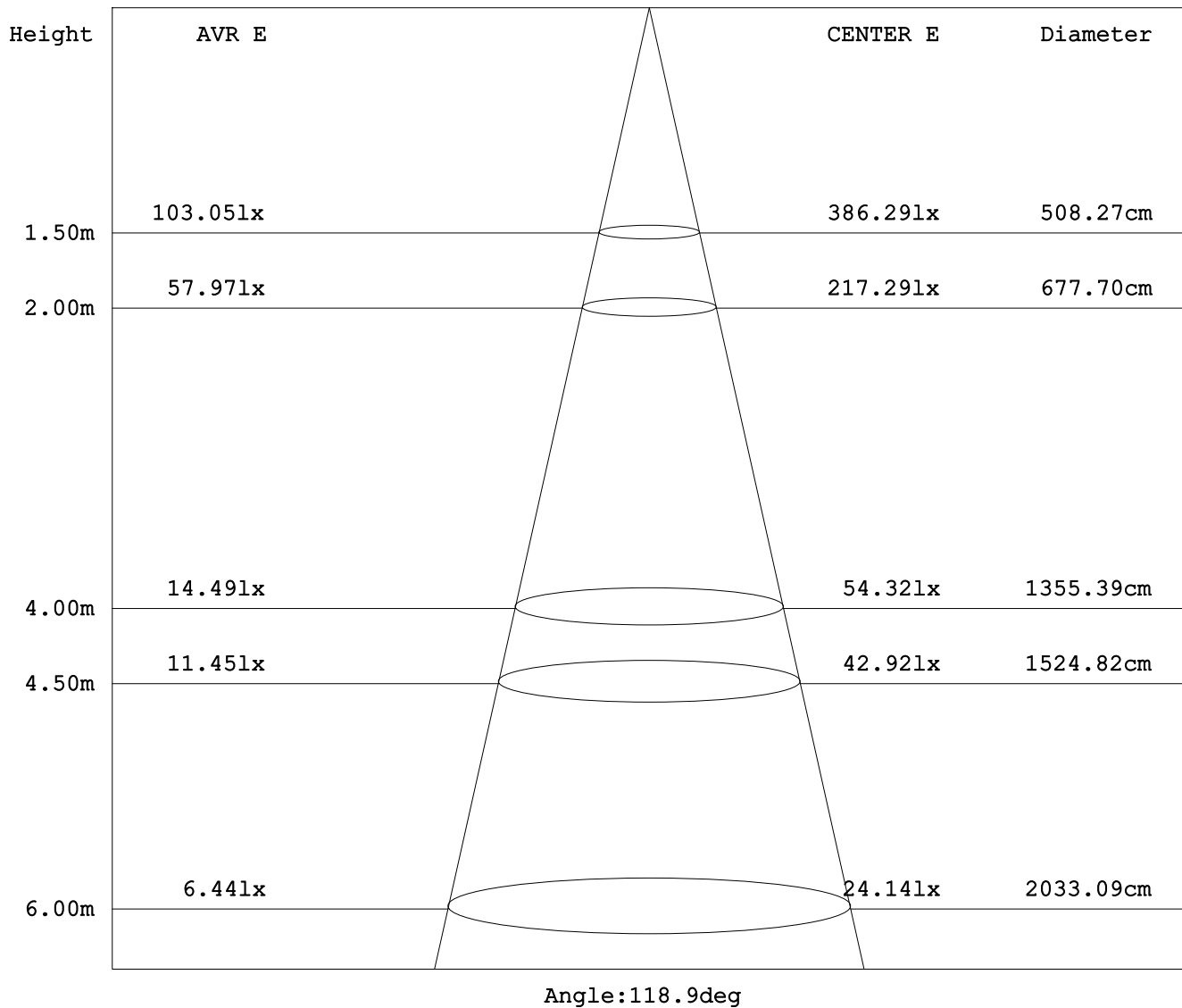
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-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-28W-3000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total
10.0	859.0	852.6	849.7	853.5	859.0	856.4	854.9	855.6	0- 10	82.20	82.20
20.0	828.6	813.3	807.7	819.1	828.3	820.8	819.4	822.4	10- 20	237.3	319.5
30.0	784.6	756.4	740.0	763.2	778.2	762.2	756.3	769.0	20- 30	366.3	685.9
40.0	715.2	675.3	646.9	686.6	710.3	681.0	666.7	694.6	30- 40	454.7	1141
50.0	625.4	571.5	532.8	588.9	618.4	581.1	554.0	597.8	40- 50	491.7	1632
60.0	520.5	458.0	423.7	475.5	507.9	463.6	425.4	483.5	50- 60	472.6	2105
70.0	403.2	342.1	272.7	358.8	400.6	339.9	294.9	366.2	60- 70	404.4	2509
80.0	311.2	218.9	134.4	242.4	291.3	219.1	150.4	255.8	70- 80	305.0	2815
90.0	225.5	125.4	23.83	153.7	206.0	125.7	32.30	167.5	80- 90	197.4	3012
100.0	155.0	69.63	8.228	86.33	136.2	67.94	14.64	99.40	90-100	112.0	3124
110.0	122.8	65.40	11.49	70.72	100.9	58.68	16.45	87.72	100-110	77.57	3202
120.0	113.4	63.10	11.13	64.67	90.02	55.78	18.39	83.18	110-120	65.61	3267
130.0	101.6	58.80	14.39	57.11	81.55	52.02	20.69	75.62	120-130	55.08	3322
140.0	87.24	52.33	17.54	49.91	70.90	45.73	22.74	66.18	130-140	43.23	3366
150.0	70.78	44.76	20.32	39.74	58.68	38.47	25.16	54.69	140-150	30.36	3396
160.0	52.63	36.96	23.11	30.06	45.98	32.00	26.49	42.77	150-160	18.61	3415
170.0	36.90	30.91	26.61	25.41	32.91	27.46	27.58	32.30	160-170	9.317	3424
180.0	30.97	28.25	28.79	27.64	31.09	28.37	29.52	27.64	170-180	2.764	3427
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

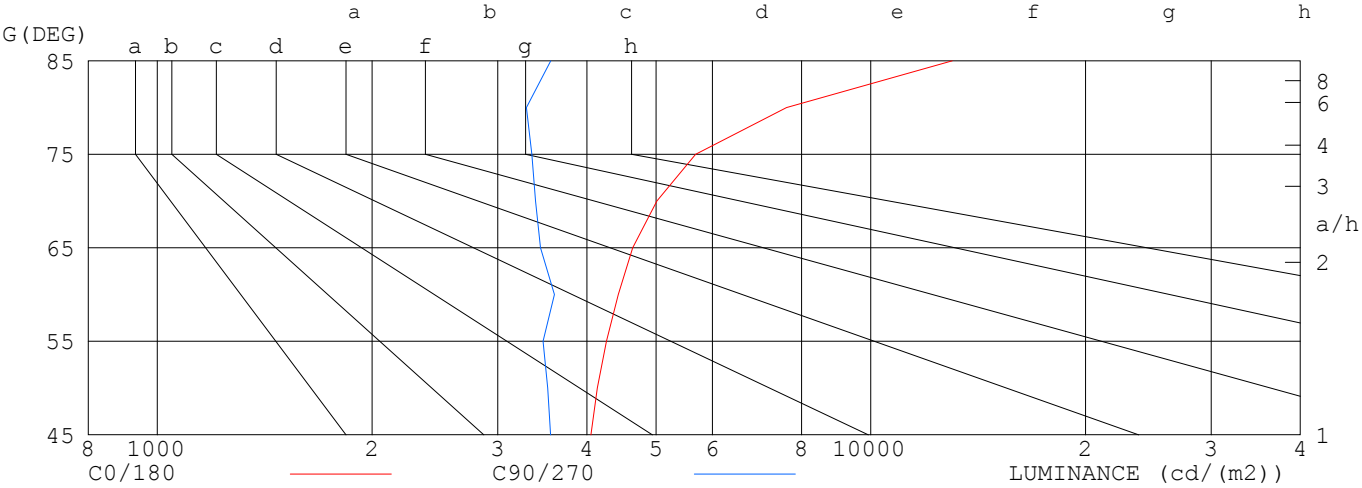
LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:					
Address:					
NAME: 1.2M-28W-3000K		TYPE:		WEIGHT:	
SPECIFICATION:		DIMENSION: 1200*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	13008	3559
80	7619	3291
75	5682	3349
70	5013	3390
65	4638	3445
60	4426	3603
55	4261	3473
50	4137	3524
45	4053	3558

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

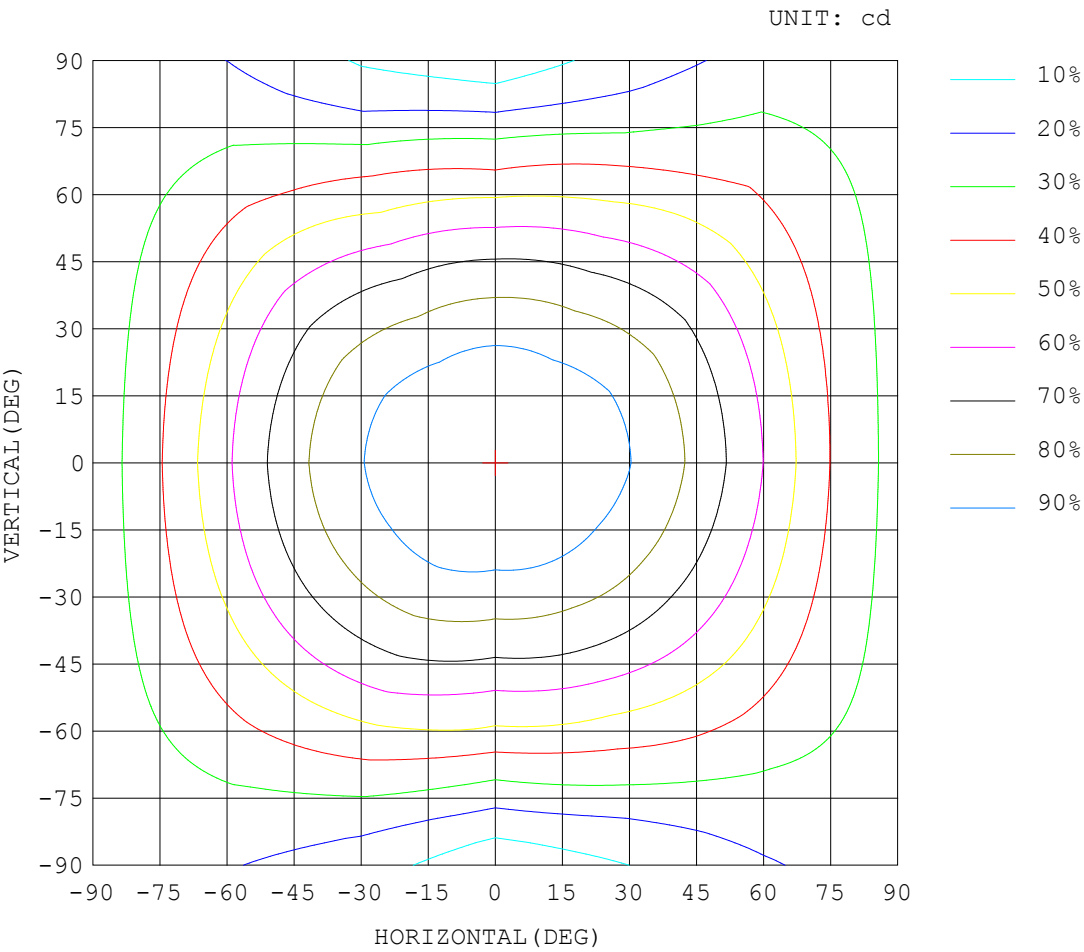
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-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

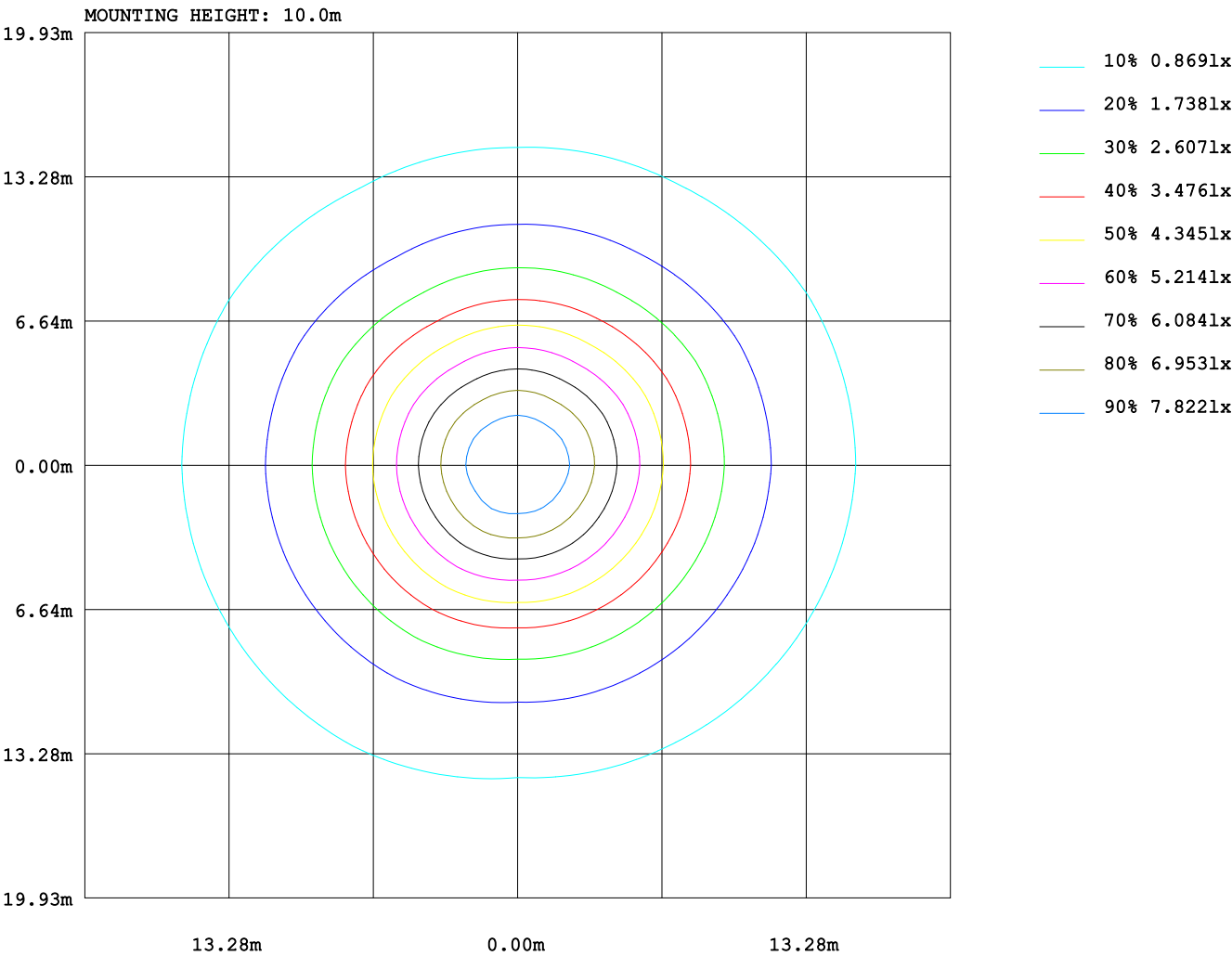
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-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-28W-3000K										TYPE:					WEIGHT:				
SPECIFICATION:										DIMENSION: 1200*152*52mm					SERIAL No.:				

	AREA FLUX DIAGRAM																		UNIT:lm		Φ t	Φ a
	0.54	1.57	2.52	3.16	3.34	3.21	3.07	3.03	2.83	3.05	3.68	4.10	4.30	4.23	3.84	2.96	1.80	0.60	51.9	48.7		
90																						
80	0.57	1.75	3.00	4.13	4.94	5.51	6.04	6.61	6.82	6.99	7.10	6.83	6.36	5.70	4.77	3.44	1.97	0.63	83.2	83.2		
70	0.59	1.93	3.53	5.27	6.78	8.20	9.43	10.4	10.8	11.0	10.8	10.0	8.87	7.37	5.77	3.92	2.15	0.65	118	118		
60	0.61	2.11	4.08	6.31	8.62	10.7	12.4	13.9	14.8	14.9	14.3	13.0	11.2	9.12	6.74	4.37	2.32	0.67	151	151		
50	0.64	2.29	4.57	7.36	10.4	13.1	15.4	17.3	18.4	18.5	17.6	15.8	13.5	10.8	7.72	4.79	2.46	0.70	182	182		
40	0.66	2.44	5.01	8.30	11.9	15.2	18.0	20.1	21.4	21.5	20.3	18.3	15.6	12.2	8.58	5.20	2.58	0.71	209	209		
30	0.67	2.57	5.39	9.03	13.0	16.9	20.0	22.3	23.7	23.7	22.4	20.3	17.2	13.3	9.28	5.55	2.68	0.73	229	229		
VERTICAL (DEG)	0.68	2.67	5.66	9.54	13.8	17.9	21.4	23.9	25.2	25.2	23.9	21.6	18.1	14.0	9.75	5.81	2.75	0.74	243	243		
	0.69	2.73	5.81	9.83	14.2	18.4	22.0	24.7	26.0	26.0	24.7	22.1	18.6	14.4	10.0	5.95	2.79	0.75	250	250		
	0.69	2.73	5.81	9.81	14.2	18.4	22.0	24.6	26.0	25.9	24.5	22.0	18.5	14.3	9.93	5.91	2.78	0.74	249	249		
	0.69	2.67	5.65	9.50	13.7	17.8	21.2	23.8	25.2	25.1	23.7	21.2	17.7	13.7	9.55	5.71	2.71	0.73	241	241		
	0.67	2.58	5.38	8.95	12.9	16.7	20.0	22.4	23.5	23.4	22.2	19.8	16.6	12.8	8.95	5.40	2.61	0.72	226	226		
-30	0.66	2.45	5.03	8.19	11.8	15.3	18.3	20.3	21.1	21.0	19.9	17.9	14.9	11.6	8.15	5.00	2.48	0.70	205	205		
-40	0.64	2.30	4.60	7.31	10.3	13.3	15.9	17.5	18.0	17.9	17.1	15.3	12.9	10.1	7.21	4.53	2.34	0.68	179	179		
-50	0.62	2.13	4.08	6.41	8.74	11.1	13.1	14.3	14.5	14.4	13.8	12.4	10.6	8.45	6.22	4.01	2.17	0.65	148	148		
-60	0.59	1.95	3.56	5.35	7.14	8.76	10.0	10.6	10.7	10.5	10.2	9.38	8.23	6.76	5.11	3.48	1.98	0.63	115	115		
-70	0.57	1.78	3.07	4.32	5.41	6.36	6.93	6.94	6.54	6.39	6.49	6.21	5.66	4.92	4.02	2.97	1.80	0.60	81.0	81.0		
-80	0.54	1.60	2.60	3.41	3.94	4.24	4.12	3.55	2.77	2.57	2.99	3.23	3.37	3.35	3.07	2.47	1.61	0.57	50.0	46.8		
-90																						
	-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)					20	30	40	50	60	70	80	90	
Φ t	11.3	40.3	79.4	126	176	222	260	287	299	299	286	260	223	177	129	81.5	42.1	12.2	3427			
Φ a	11.3	40.3	79.4	126	176	222	259	286	297	297	285	260	223	177	129	81.5	42.1	12.2		3208		

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:

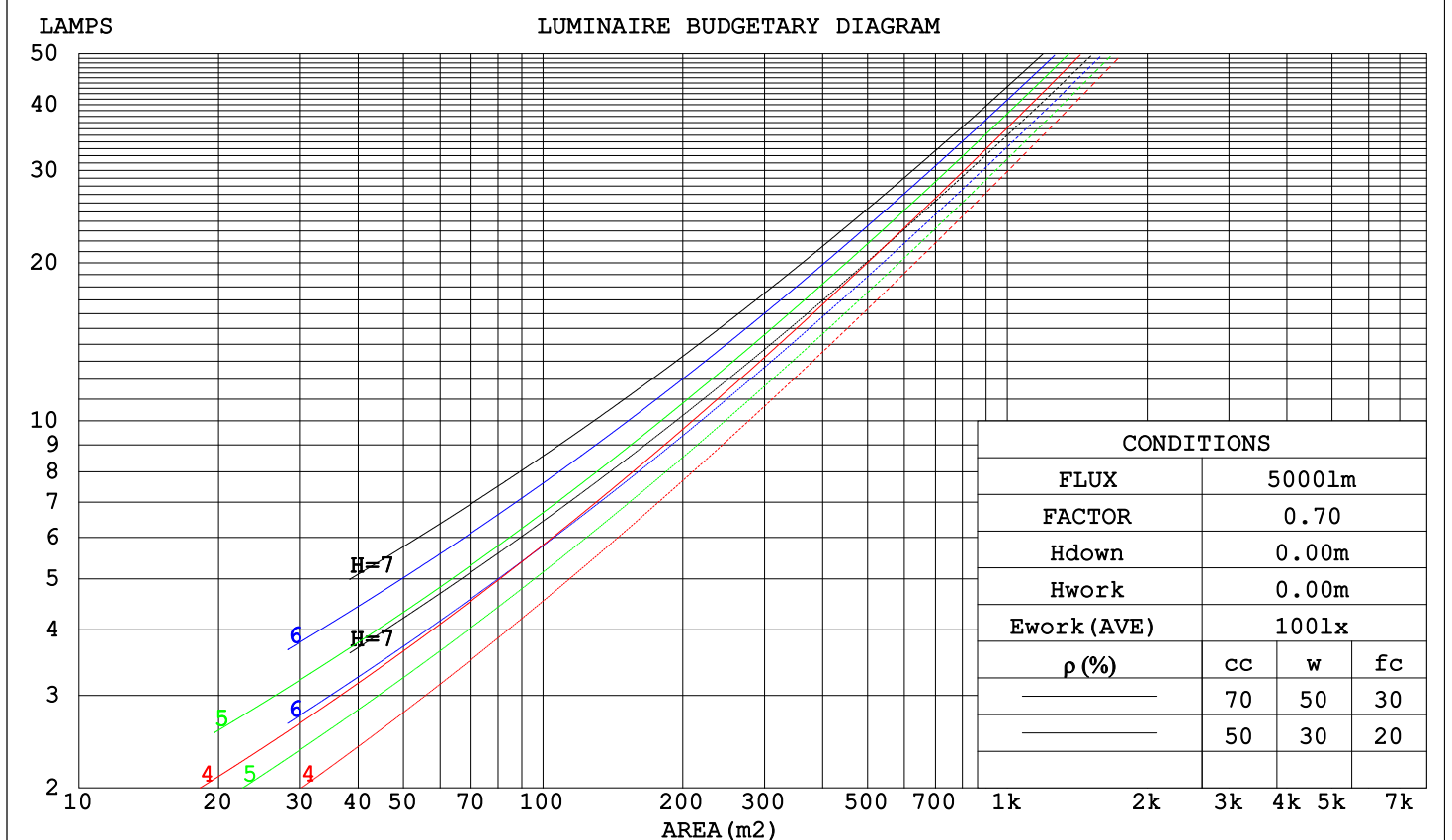
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: 1.2M-28W-3000K								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 1200*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-28W-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	.364	.207	.065	.353	.201	.064	.332	.191	.061	.314	.181	.058	.296	.172	.055															
2.0	.322	.177	.054	.312	.172	.053	.294	.163	.051	.277	.155	.049	.261	.148	.047															
3.0	.289	.154	.046	.281	.150	.045	.264	.143	.044	.249	.136	.042	.235	.130	.040															
4.0	.262	.136	.040	.254	.133	.039	.240	.127	.038	.226	.121	.037	.213	.116	.035															
5.0	.240	.122	.035	.232	.119	.035	.219	.114	.034	.206	.109	.032	.195	.104	.031															
6.0	.220	.110	.032	.214	.108	.031	.202	.103	.030	.190	.099	.029	.180	.095	.028															
7.0	.204	.101	.029	.198	.099	.028	.187	.094	.027	.176	.090	.026	.166	.086	.025															
8.0	.189	.092	.026	.184	.091	.026	.174	.087	.025	.164	.083	.024	.155	.080	.023															
9.0	.177	.085	.024	.172	.084	.023	.162	.080	.023	.154	.077	.022	.145	.074	.021															
10.0	.166	.079	.022	.161	.078	.022	.152	.075	.021	.144	.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	.283	.283	.283	.242	.242	.242	.165	.165	.165	.095	.095	.095	.030	.030	.030	
1.0	.277	.249	.223	.237	.213	.192	.162	.147	.133	.093	.085	.077	.030	.027	.025	
2.0	.270	.225	.188	.231	.194	.162	.158	.134	.113	.091	.078	.066	.029	.025	.022	
3.0	.262	.209	.166	.225	.180	.144	.154	.125	.101	.089	.073	.059	.029	.024	.019	
4.0	.255	.196	.151	.218	.169	.131	.150	.118	.092	.087	.069	.055	.028	.022	.018	
5.0	.247	.186	.141	.212	.161	.122	.146	.112	.086	.085	.066	.051	.027	.022	.017	
6.0	.240	.178	.133	.206	.154	.116	.142	.108	.082	.082	.063	.049	.027	.021	.016	
7.0	.233	.171	.128	.200	.148	.111	.138	.104	.079	.080	.061	.047	.026	.020	.016	
8.0	.226	.165	.124	.195	.143	.108	.135	.101	.077	.078	.059	.046	.025	.019	.015	
9.0	.220	.161	.121	.189	.139	.105	.131	.098	.075	.076	.058	.045	.025	.019	.015	
10.0	.214	.156	.118	.184	.136	.103	.128	.096	.073	.075	.056	.044	.024	.019	.014	

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-28W-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	17.2	18.6	17.7	19.1	19.5	16.3	17.8	16.8	18.2	18.6	
	19.4	20.7	19.9	21.2	21.6	18.1	19.4	18.5	19.8	20.3	
	20.5	21.8	21.0	22.3	22.8	18.8	20.1	19.3	20.5	21.0	
	21.9	23.0	22.4	23.5	24.1	19.4	20.5	19.9	21.0	21.6	
	22.6	23.7	23.1	24.2	24.8	19.6	20.7	20.1	21.2	21.8	
	23.4	24.5	23.9	25.0	25.6	19.7	20.8	20.3	21.3	21.9	
4H 2H	17.8	19.1	18.3	19.5	20.0	17.1	18.4	17.6	18.8	19.4	
	20.2	21.3	20.7	21.8	22.4	19.1	20.2	19.6	20.7	21.3	
	21.5	22.5	22.0	23.0	23.6	20.0	21.0	20.5	21.5	22.1	
	23.0	23.9	23.6	24.5	25.1	20.7	21.6	21.3	22.2	22.8	
	23.8	24.7	24.4	25.3	25.9	21.0	21.8	21.6	22.4	23.0	
	24.8	25.6	25.4	26.2	26.8	21.2	22.0	21.8	22.6	23.2	
8H 4H	21.8	22.7	22.4	23.2	23.9	20.5	21.4	21.1	21.9	22.6	
	23.6	24.3	24.2	24.9	25.6	21.5	22.2	22.1	22.8	23.5	
	24.6	25.2	25.2	25.8	26.6	21.9	22.5	22.5	23.2	23.9	
	25.8	26.4	26.5	27.0	27.7	22.3	22.8	23.0	23.5	24.2	
12H 4H	21.8	22.6	22.4	23.2	23.9	20.7	21.4	21.3	22.0	22.7	
	23.7	24.3	24.3	24.9	25.6	21.8	22.4	22.4	23.0	23.7	
	24.8	25.3	25.4	26.0	26.7	22.3	22.8	22.9	23.5	24.2	
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 / - 0.3					

CIE Pub.117 Corrected 3427 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.3)

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-28W-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) x RCR = 5									
k = 0.60	51	39	31	50	38	31	48	37	31	24
0.80	60	48	40	59	47	39	56	46	39	31
1.00	68	56	48	66	55	47	63	56	46	38
1.25	75	63	55	73	62	54	69	60	53	44
1.50	80	69	61	78	67	60	73	65	58	48
2.00	87	77	69	85	75	68	80	72	66	55
2.50	92	82	75	89	80	73	83	76	70	59
3.00	95	87	80	92	85	78	86	80	75	63
4.00	100	93	87	96	90	85	90	85	80	68
5.00	103	96	91	99	94	89	93	88	84	71
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNOM = 1.25										

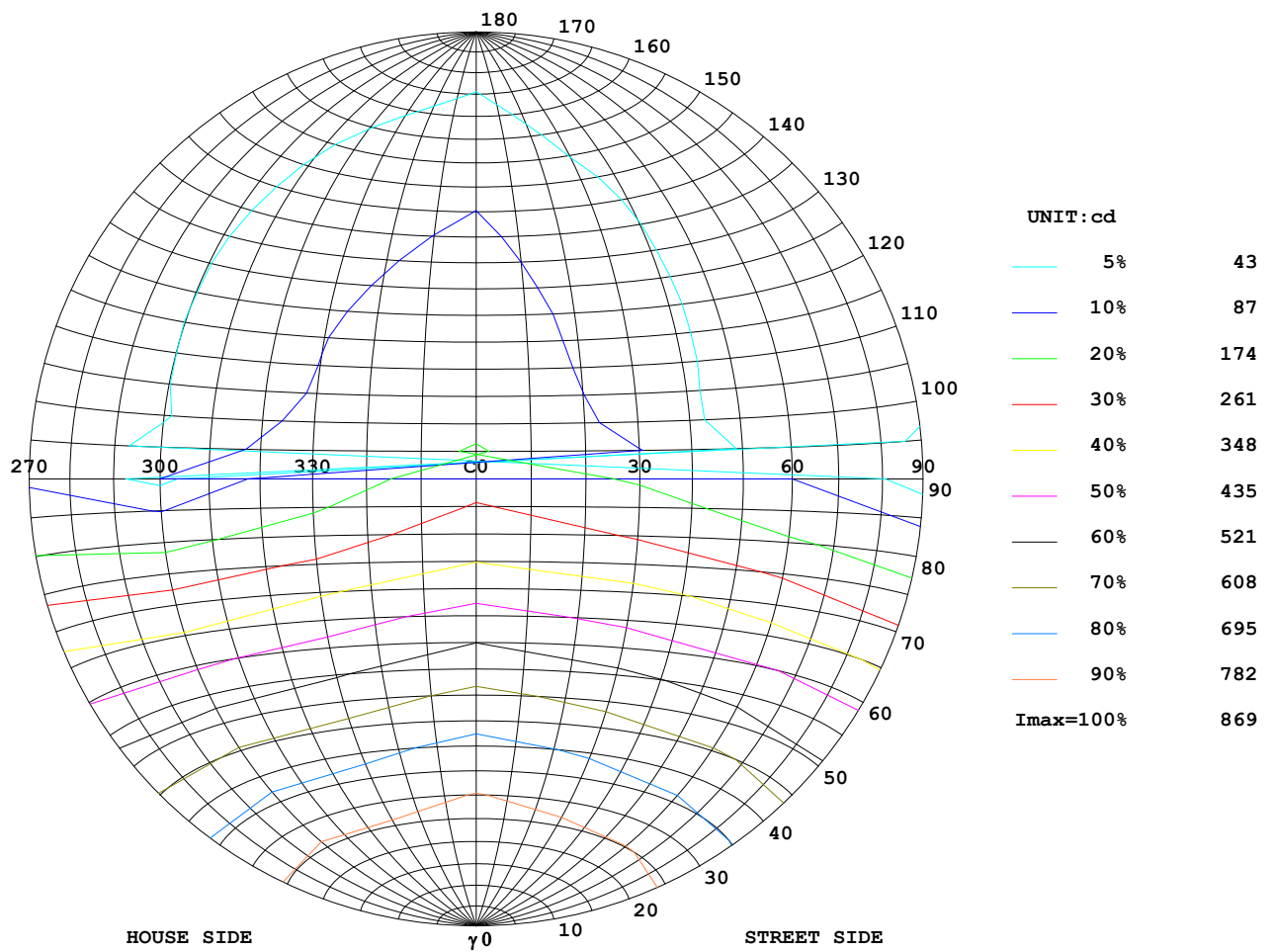
Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2022年12月1日

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-28W-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

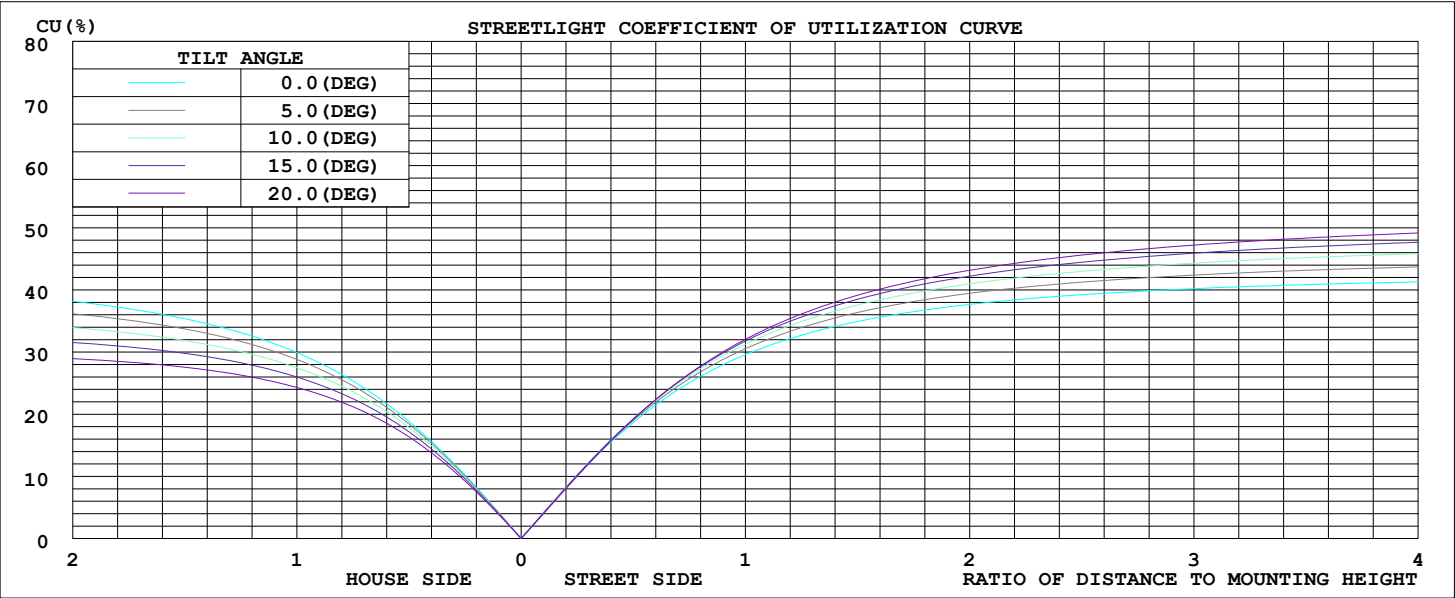
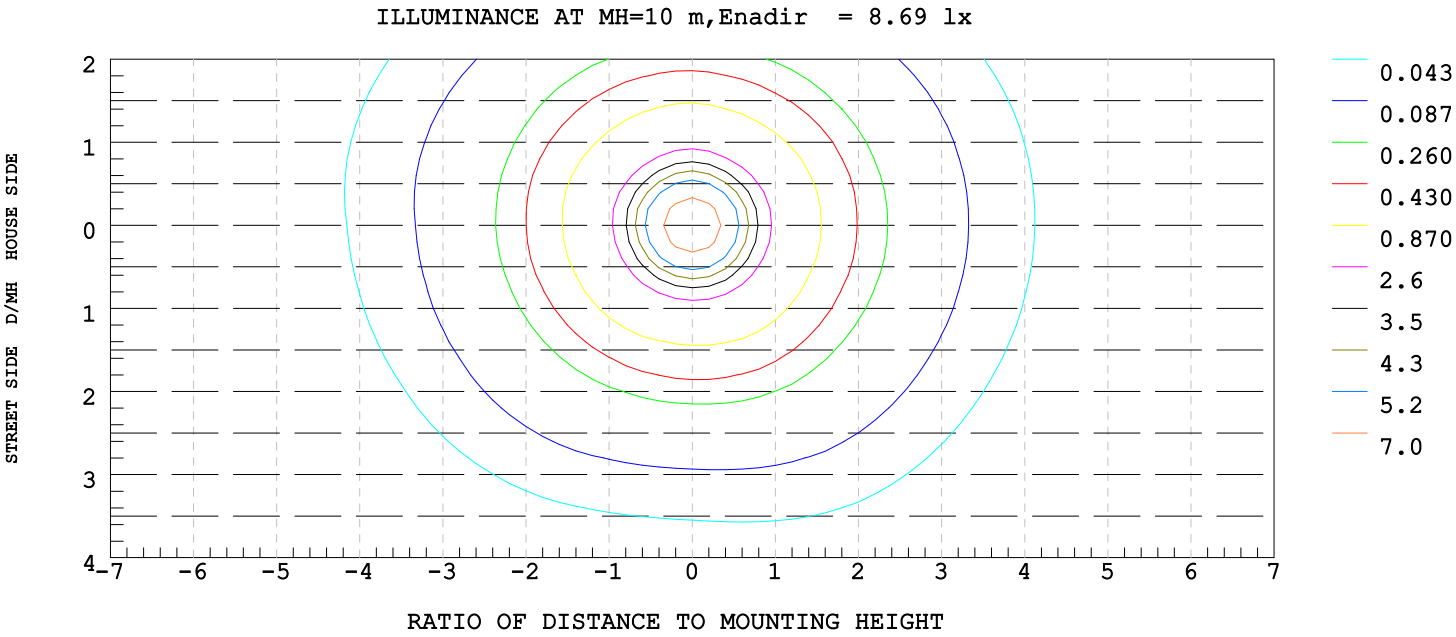
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-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

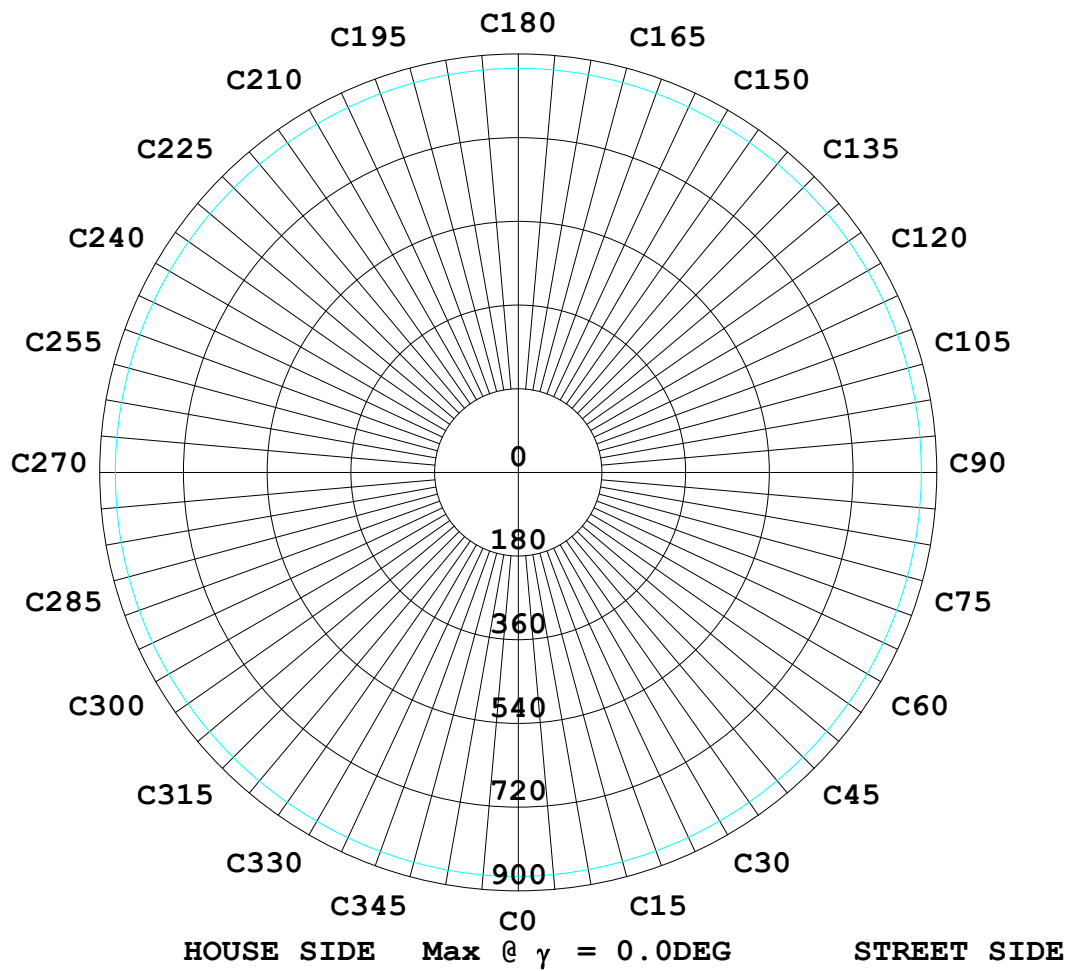
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-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: