

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

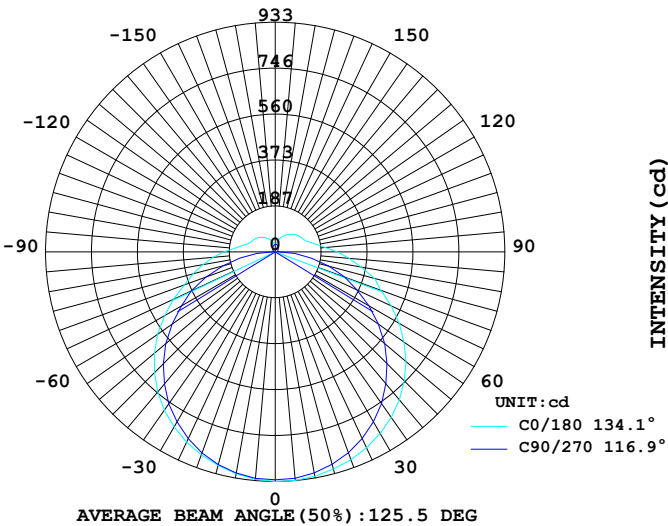
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

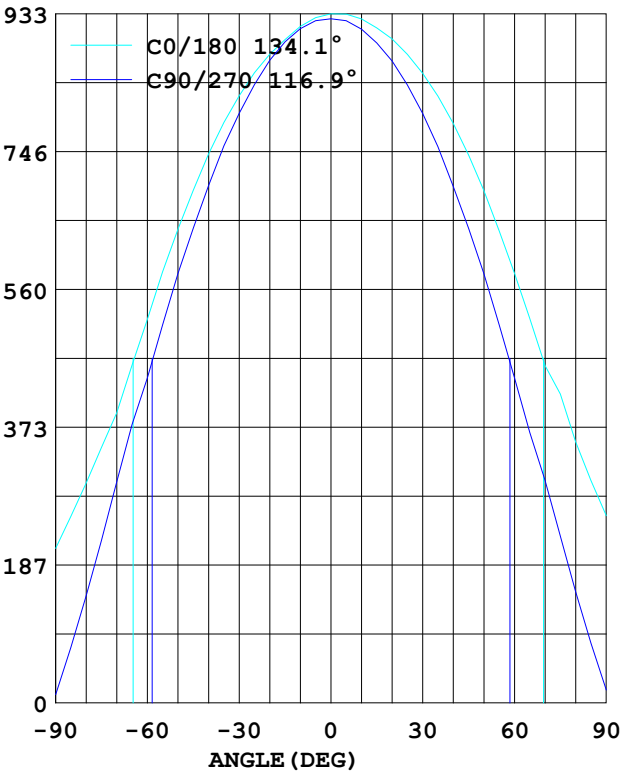
MANUFACTURER:		
Address:		
NAME: 1.2M-28W-5000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:

DATA OF LAMP		Imax(cd)	932.7	S/MH (C0/180)	1.31
MODEL		EFFICIENCY (%)	100.0	S/MH (C90/270)	1.28
NOMINAL POWER(W)	28	TOTAL FLUX(lm)	3635.6	Voltage(V)	220.0
RATED VOLTAGE (V)	220	EFFICIENCY (lm/W)	125.3	Current(A)	0.135
NOMINAL FLUX(lm)	3635.6	η up (%)	11.8	Power (W)	29.01
LAMPS QUANTITY	1	η down (%)	88.2	Power Factor (PF)	0.976
TEST VOLTAGE (V)	220.0	Effective Flux(lm)	3414.6	EEI	0.116

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



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

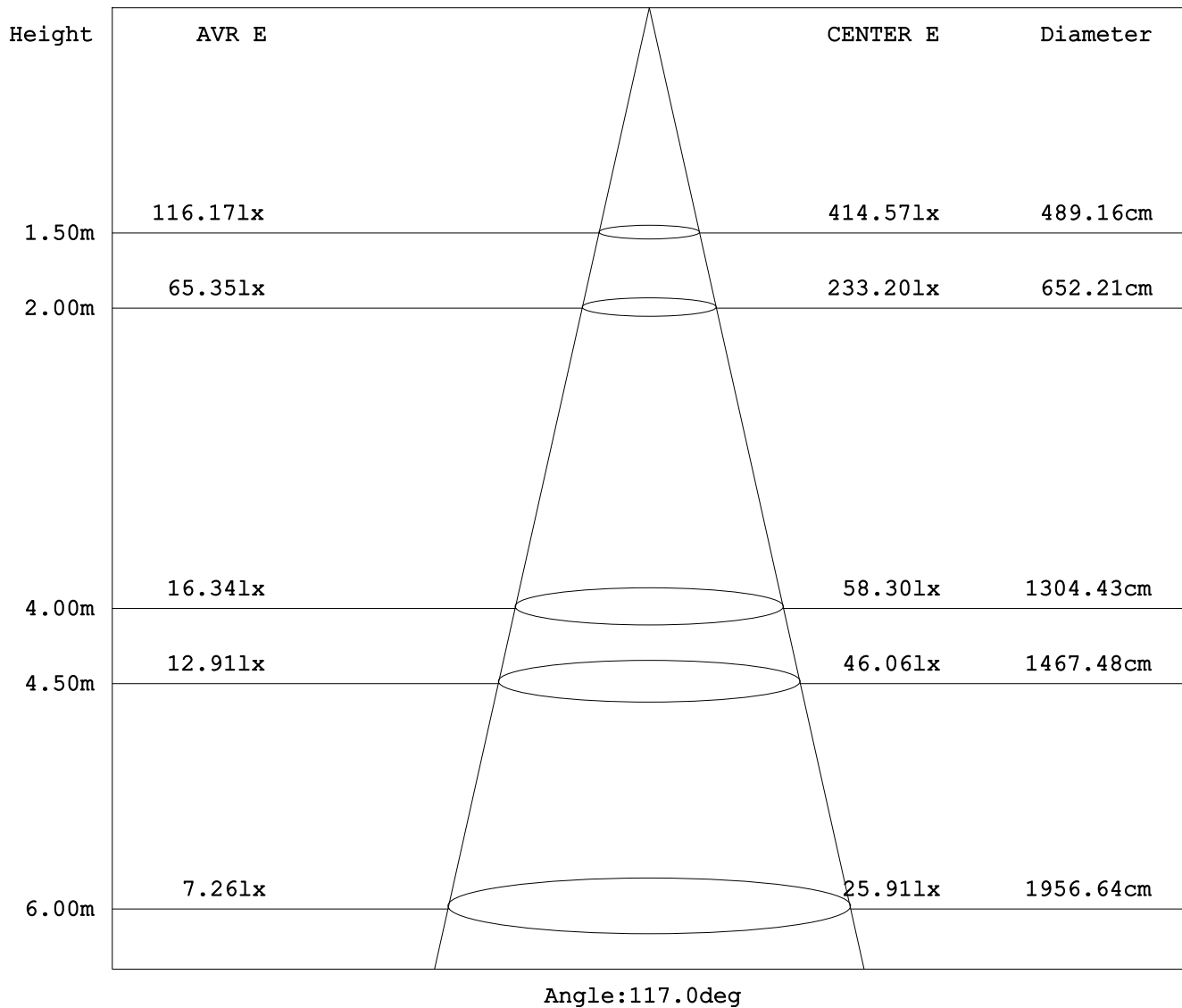
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-5000K	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-5000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total
10.0	915.4	913.3	912.5	918.5	925.6	918.8	911.9	909.4	0- 10	88.01	88.01
20.0	877.9	871.8	869.6	883.9	898.6	884.0	868.7	866.7	10- 20	254.0	342.0
30.0	821.5	808.8	797.7	826.0	852.0	825.2	797.6	800.0	20- 30	391.7	733.8
40.0	742.9	722.4	700.1	745.9	784.3	744.3	699.0	710.0	30- 40	486.1	1220
50.0	641.0	613.8	581.0	643.5	693.4	643.0	581.1	601.3	40- 50	525.0	1745
60.0	519.2	487.0	439.9	520.6	581.7	521.9	440.3	471.5	50- 60	503.9	2249
70.0	392.7	356.7	299.4	389.1	456.6	393.0	301.4	338.0	60- 70	429.5	2678
80.0	297.7	233.5	145.2	264.9	353.5	271.4	150.8	216.8	70- 80	322.6	3001
90.0	209.2	138.2	11.13	155.1	253.3	167.4	17.54	123.5	80- 90	206.3	3208
100.0	141.4	79.25	2.904	86.27	172.9	95.77	8.470	67.45	90-100	114.8	3322
110.0	109.7	69.75	6.050	77.98	132.3	83.85	10.76	61.28	100-110	79.77	3402
120.0	100.1	65.82	10.28	74.47	120.2	77.01	13.06	58.98	110-120	67.92	3470
130.0	90.14	60.80	13.91	66.91	108.5	69.15	15.73	55.11	120-130	57.34	3527
140.0	77.68	53.48	17.18	56.80	94.13	58.14	18.99	49.30	130-140	44.53	3572
150.0	63.40	45.19	21.29	46.10	77.43	48.15	23.35	42.53	140-150	31.29	3603
160.0	48.27	36.60	24.92	36.96	59.65	39.50	27.34	35.75	150-160	19.51	3623
170.0	33.27	31.09	28.19	30.06	40.41	31.94	30.61	31.70	160-170	9.898	3633
180.0	31.58	30.85	31.33	30.37	31.09	30.67	31.94	30.37	170-180	2.980	3636
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

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

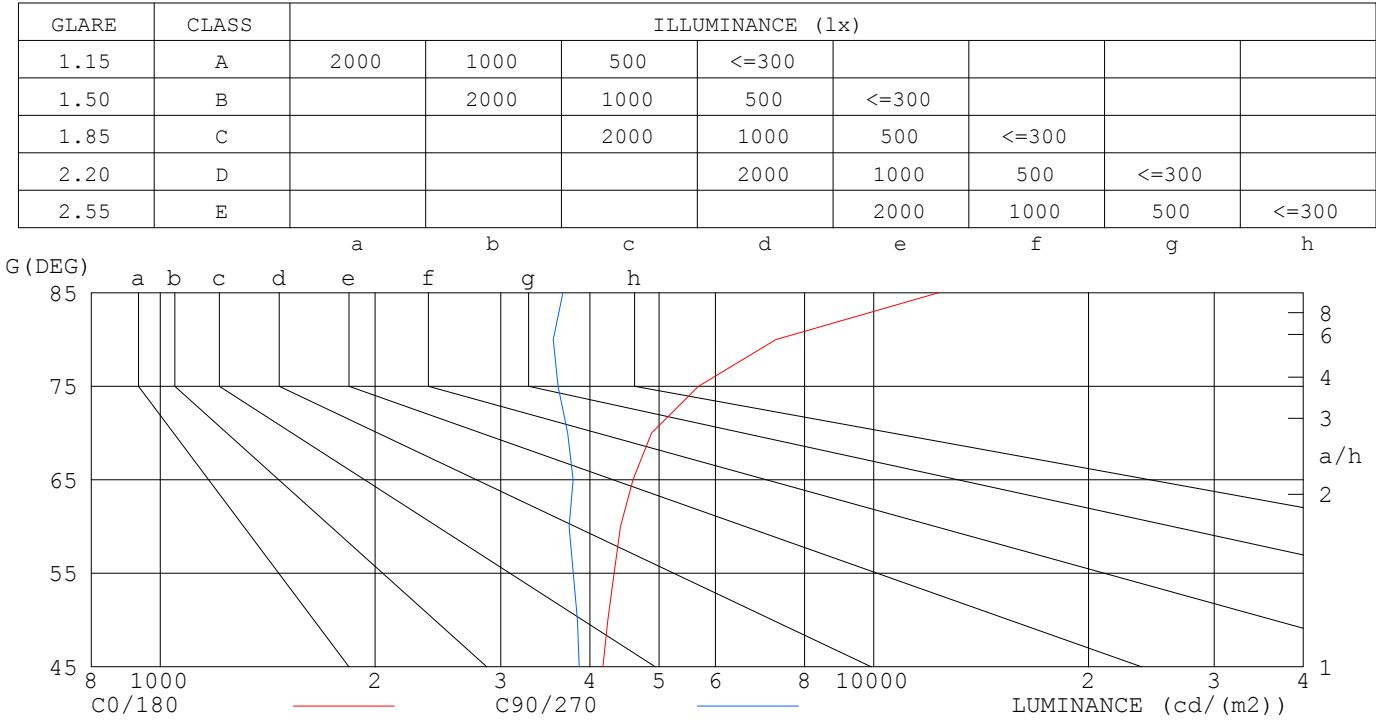
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:					
Address:					
NAME: 1.2M-28W-5000K		TYPE:		WEIGHT:	
SPECIFICATION:		DIMENSION: 1200*152*52mm		SERIAL No.:	

LUMINANCE LIMITATION CURVES



LUMINANCE cd/ (m2)

G (DEG)	C0/180	C90/270
85	12312	3665
80	7290	3555
75	5678	3609
70	4882	3722
65	4597	3789
60	4415	3741
55	4325	3791
50	4240	3843
45	4172	3864

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

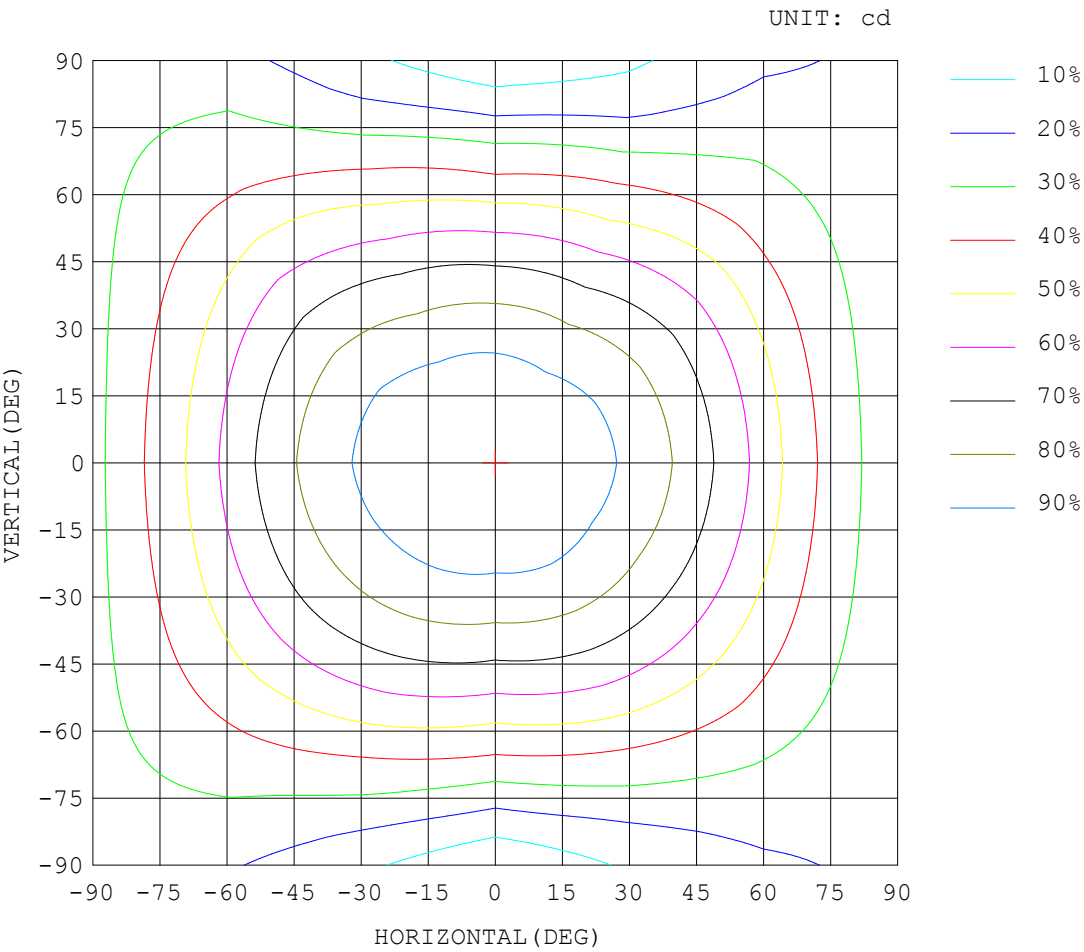
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-5000K	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

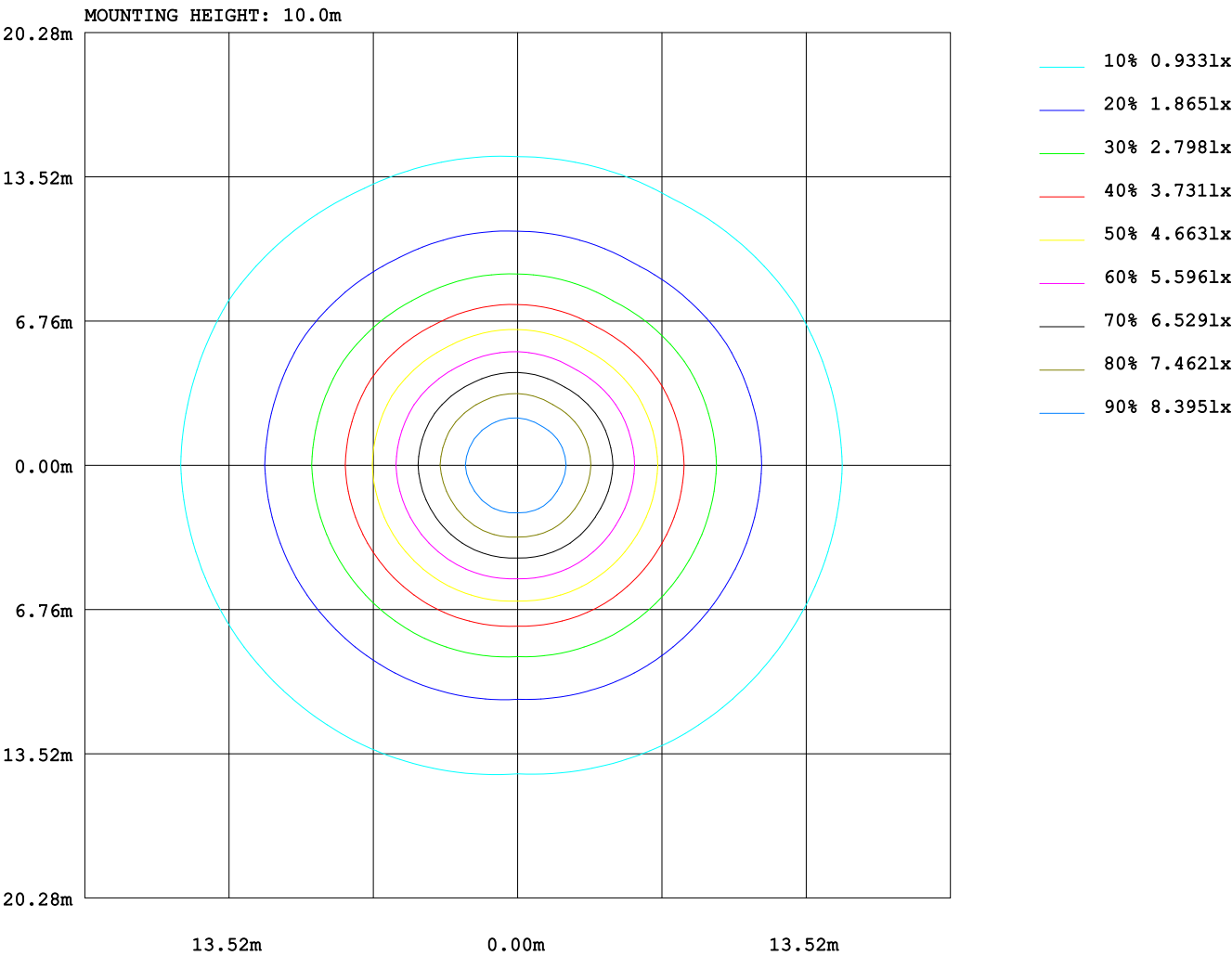
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-5000K	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-5000K										TYPE:					WEIGHT:				
SPECIFICATION:										DIMENSION: 1200*152*52mm					SERIAL No.:				

		AREA FLUX DIAGRAM																UNIT:lm			Φ t	Φ a
		0.67	1.96	3.17	4.03	4.34	4.26	3.97	3.54	2.89	2.68	2.91	2.99	3.15	3.30	3.13	2.51	1.58	0.55	51.6	47.2	
VERTICAL (DEG)	90	0.70	2.17	3.75	5.13	6.03	6.66	7.10	7.32	7.12	6.88	6.61	6.00	5.45	4.89	4.11	3.01	1.76	0.57	85.3	85.3	
	80	0.73	2.38	4.29	6.17	7.87	9.41	10.5	11.3	11.4	11.1	10.6	9.52	8.20	6.74	5.22	3.53	1.95	0.60	122	122	
	70	0.75	2.58	4.81	7.34	9.89	12.1	13.8	15.1	15.6	15.3	14.4	12.7	10.9	8.69	6.28	4.06	2.14	0.62	157	157	
	60	0.78	2.78	5.34	8.50	11.7	14.6	16.9	18.7	19.5	19.2	18.0	15.9	13.4	10.5	7.41	4.54	2.31	0.65	191	191	
	50	0.80	2.95	5.81	9.47	13.3	16.8	19.6	21.6	22.7	22.5	21.0	18.7	15.7	12.2	8.41	4.99	2.47	0.67	220	220	
	40	0.82	3.09	6.21	10.2	14.5	18.6	21.8	24.0	25.2	25.0	23.4	21.0	17.6	13.4	9.21	5.40	2.59	0.69	243	243	
	30	0.83	3.19	6.51	10.7	15.3	19.7	23.3	25.7	27.0	26.7	25.2	22.5	18.7	14.3	9.78	5.70	2.68	0.70	259	259	
	20	0.84	3.26	6.68	11.0	15.8	20.3	24.0	26.6	27.9	27.7	26.1	23.3	19.4	14.8	10.1	5.87	2.74	0.71	268	268	
	10	0.84	3.26	6.67	11.0	15.7	20.2	23.9	26.5	27.9	27.8	26.1	23.2	19.3	14.8	10.1	5.87	2.74	0.71	267	267	
	0	0.83	3.18	6.46	10.6	15.2	19.5	23.1	25.7	27.0	26.9	25.3	22.5	18.7	14.2	9.76	5.69	2.68	0.70	259	259	
	-10	0.82	3.07	6.14	10.0	14.3	18.4	21.8	24.2	25.3	25.2	23.9	21.2	17.5	13.4	9.17	5.40	2.59	0.68	244	244	
	-20	0.79	2.92	5.74	9.26	13.1	16.7	19.8	21.9	22.8	22.7	21.6	19.2	15.9	12.1	8.36	5.02	2.46	0.67	222	222	
	-30	0.77	2.73	5.27	8.27	11.5	14.6	17.2	18.9	19.6	19.5	18.6	16.6	13.8	10.6	7.40	4.57	2.31	0.65	193	193	
	-40	0.74	2.52	4.72	7.18	9.71	12.1	14.1	15.3	15.7	15.6	15.0	13.5	11.3	8.85	6.38	4.05	2.13	0.62	160	160	
	-50	0.71	2.31	4.11	6.01	7.82	9.42	10.6	11.4	11.5	11.4	11.1	10.1	8.74	7.05	5.26	3.52	1.95	0.60	124	124	
	-60	0.68	2.09	3.53	4.84	5.92	6.78	7.30	7.38	7.04	6.93	7.05	6.78	6.13	5.22	4.18	3.01	1.76	0.57	87.2	87.2	
-70	0.65	1.87	2.94	3.73	4.14	4.24	4.02	3.51	2.76	2.69	3.31	3.72	3.83	3.65	3.23	2.51	1.58	0.55	53.0	49.4		
-80																						
-90																						
		-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)				20	30	40	50	60	70	80	90	
Φ t	13.7	48.3	92.2	144	197	245	283	309	320	317	301	270	228	179	128	79.3	40.5	11.4	3636			
Φ a	13.7	48.3	92.2	144	197	245	283	308	318	315	299	269	228	179	128	79.3	40.5	11.4		3415		

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:

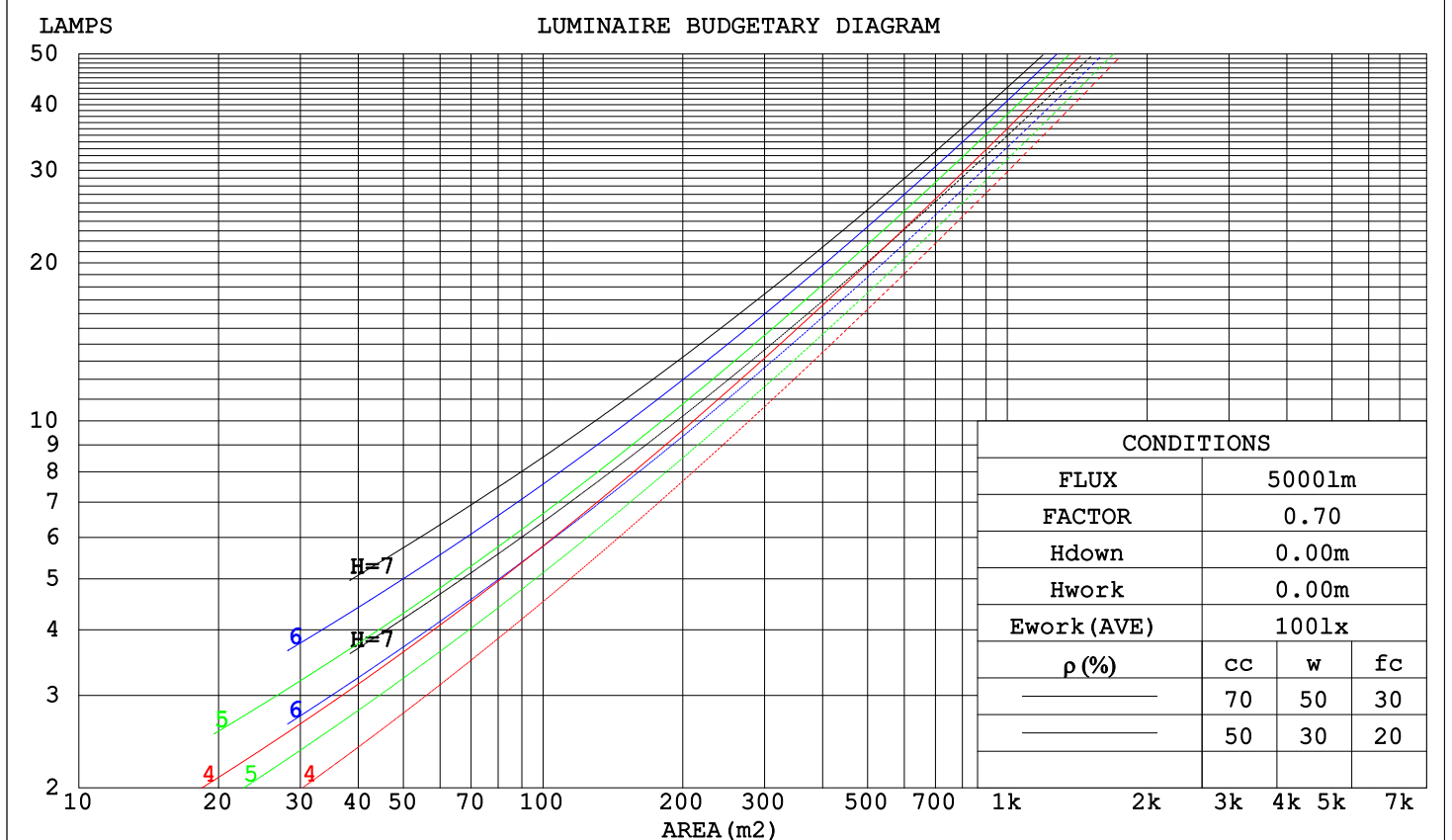
# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: 1.2M-28W-5000K								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-28W-5000K								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	.362	.206	.065	.352	.201	.064	.331	.190	.061	.313	.180	.058	.296	.171	.055	
2.0	.321	.176	.054	.312	.172	.053	.294	.163	.051	.277	.155	.049	.261	.148	.047	
3.0	.289	.154	.046	.280	.150	.045	.264	.143	.043	.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	.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	.190	.099	.029	.180	.095	.028	
7.0	.204	.101	.029	.198	.099	.028	.187	.094	.027	.176	.090	.026	.167	.087	.025	
8.0	.189	.092	.026	.184	.091	.026	.174	.087	.025	.164	.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	.280	.280	.280	.239	.239	.239	.163	.163	.163	.094	.094	.094	.030	.030	.030	
1.0	.274	.246	.221	.235	.211	.190	.161	.145	.131	.092	.084	.076	.030	.027	.025	
2.0	.267	.223	.185	.229	.192	.160	.157	.133	.112	.090	.077	.066	.029	.025	.021	
3.0	.260	.206	.163	.223	.178	.141	.153	.123	.099	.088	.072	.058	.028	.023	.019	
4.0	.252	.193	.148	.216	.167	.129	.149	.116	.091	.086	.068	.054	.028	.022	.018	
5.0	.244	.183	.138	.210	.159	.120	.145	.111	.085	.084	.065	.050	.027	.021	.017	
6.0	.237	.175	.131	.204	.152	.114	.141	.106	.081	.082	.062	.048	.026	.020	.016	
7.0	.230	.168	.125	.198	.146	.109	.137	.102	.077	.079	.060	.046	.026	.020	.015	
8.0	.223	.163	.121	.192	.141	.106	.133	.099	.075	.077	.058	.045	.025	.019	.015	
9.0	.217	.158	.118	.187	.137	.103	.130	.096	.073	.075	.057	.044	.024	.019	.014	
10.0	.211	.154	.115	.182	.134	.101	.126	.094	.072	.074	.056	.043	.024	.018	.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-5000K					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	18.7	17.7	19.1	19.5	16.7	18.1	17.1	18.6	19.0
	3H	19.3	20.6	19.8	21.1	21.5	18.4	19.8	18.9	20.2	20.7
	4H	20.4	21.7	20.9	22.1	22.6	19.2	20.4	19.6	20.9	21.4
	6H	21.6	22.8	22.1	23.3	23.8	19.7	20.9	20.2	21.4	21.9
	8H	22.3	23.5	22.8	24.0	24.5	20.0	21.1	20.5	21.6	22.1
	12H	23.1	24.2	23.6	24.7	25.3	20.1	21.2	20.6	21.7	22.3
4H	2H	17.8	19.1	18.3	19.6	20.1	17.5	18.7	17.9	19.2	19.7
	3H	20.1	21.2	20.7	21.7	22.3	19.4	20.5	19.9	21.0	21.6
	4H	21.4	22.4	22.0	22.9	23.5	20.3	21.3	20.8	21.8	22.4
	6H	22.8	23.7	23.4	24.3	24.9	21.1	22.0	21.6	22.5	23.1
	8H	23.6	24.5	24.2	25.0	25.7	21.4	22.2	21.9	22.8	23.4
	12H	24.5	25.3	25.1	25.9	26.5	21.6	22.4	22.2	23.0	23.6
8H	4H	21.8	22.6	22.4	23.2	23.8	20.8	21.7	21.4	22.2	22.9
	6H	23.4	24.1	24.1	24.7	25.4	21.9	22.6	22.5	23.2	23.8
	8H	24.4	25.0	25.0	25.7	26.4	22.3	23.0	22.9	23.6	24.3
	12H	25.6	26.1	26.2	26.8	27.5	22.7	23.3	23.4	23.9	24.6
12H	4H	21.8	22.6	22.4	23.2	23.8	21.0	21.7	21.6	22.3	23.0
	6H	23.6	24.2	24.2	24.8	25.5	22.1	22.7	22.7	23.4	24.1
	8H	24.6	25.2	25.3	25.8	26.5	22.7	23.2	23.3	23.9	24.6
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 3636 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.5)

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-5000K					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	32	50	38	31	48	37	31	24
0.80	60	48	40	59	47	40	56	46	39	31
1.00	68	56	48	67	55	47	63	56	46	38
1.25	75	63	55	73	62	55	69	60	53	44
1.50	80	69	61	78	68	60	74	65	58	49
2.00	88	77	70	85	76	68	80	72	66	56
2.50	92	83	75	89	80	74	83	76	71	59
3.00	96	87	80	92	85	79	87	80	75	63
4.00	100	93	87	97	90	85	90	85	81	68
5.00	103	97	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

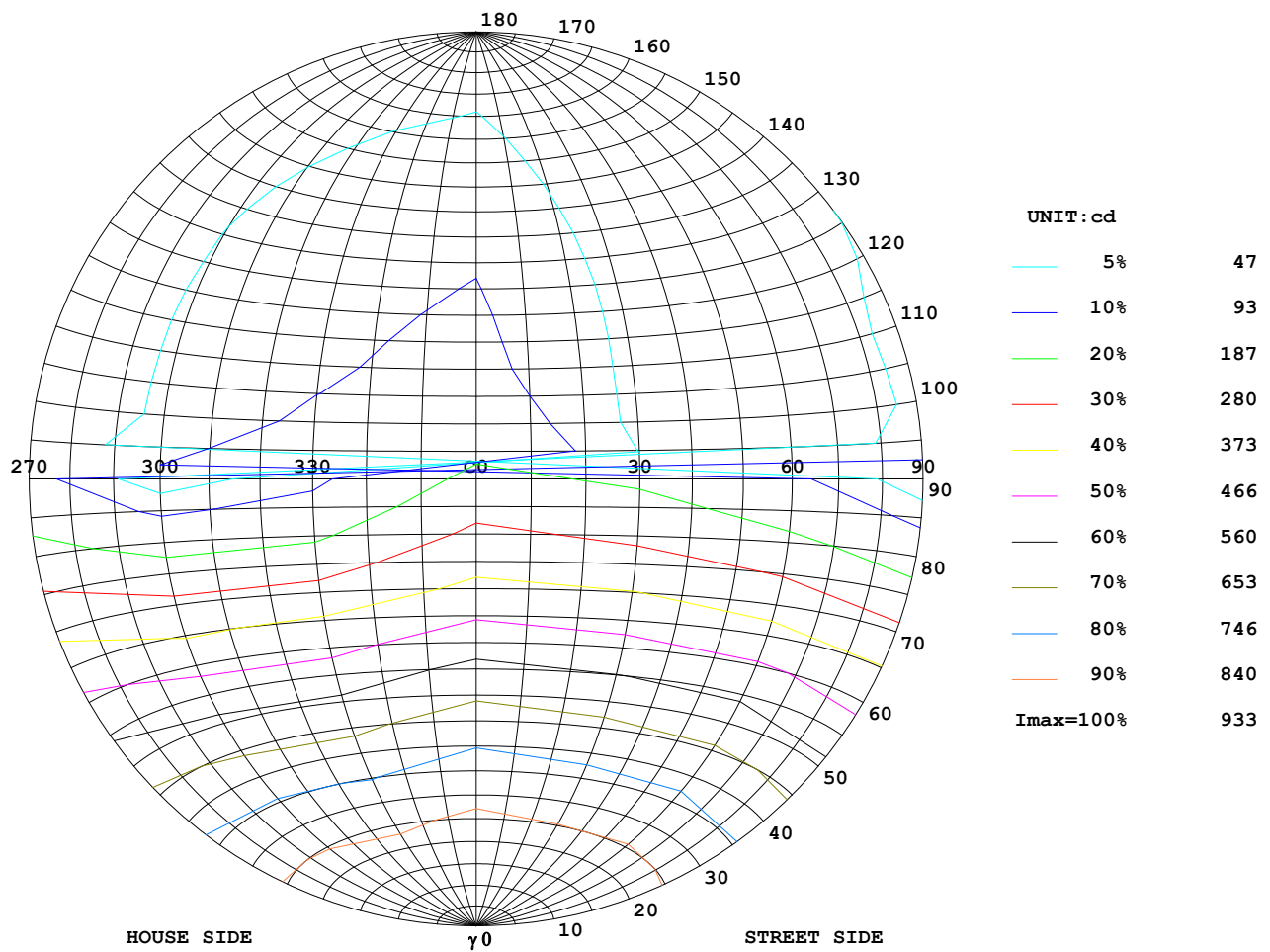
Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-5000K	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

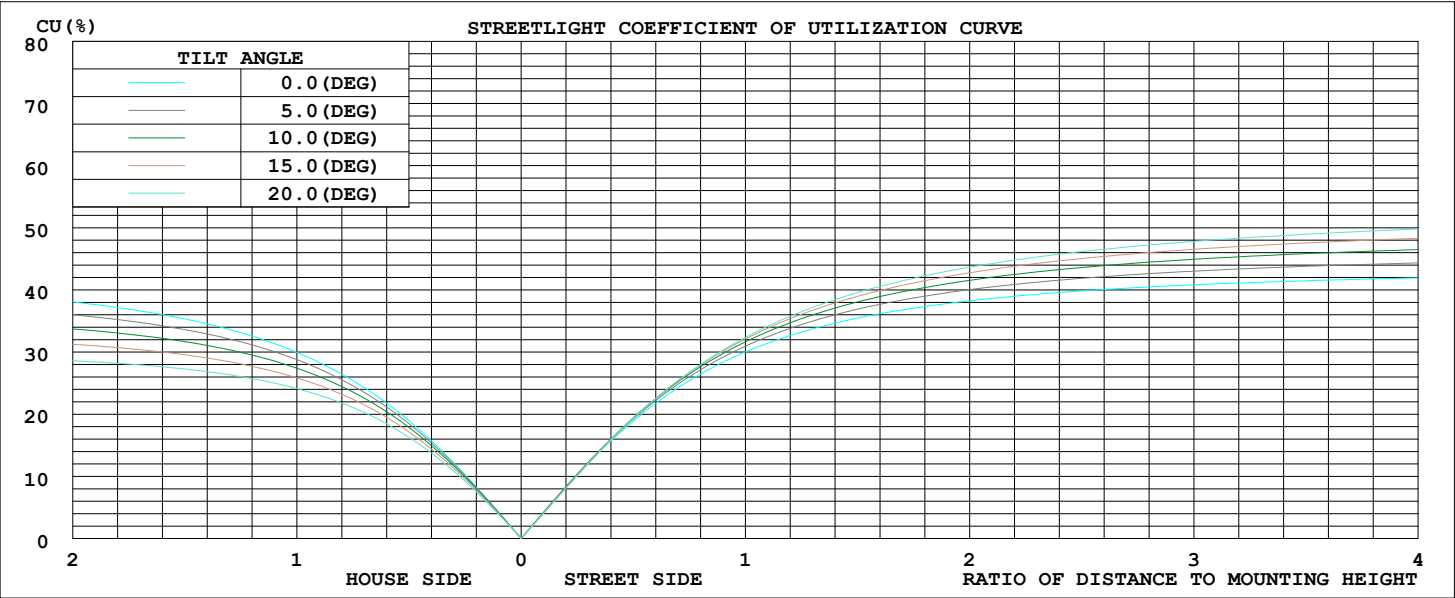
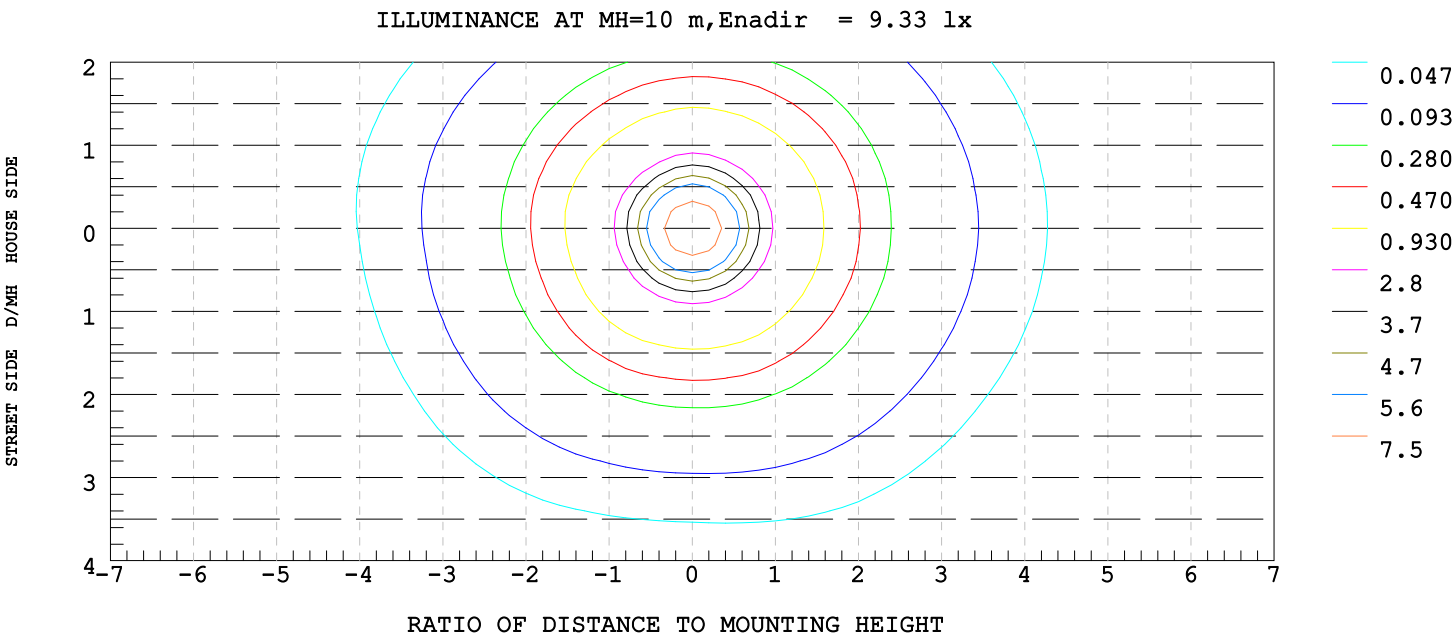
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-5000K	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1200*152*52mm	SERIAL No.:



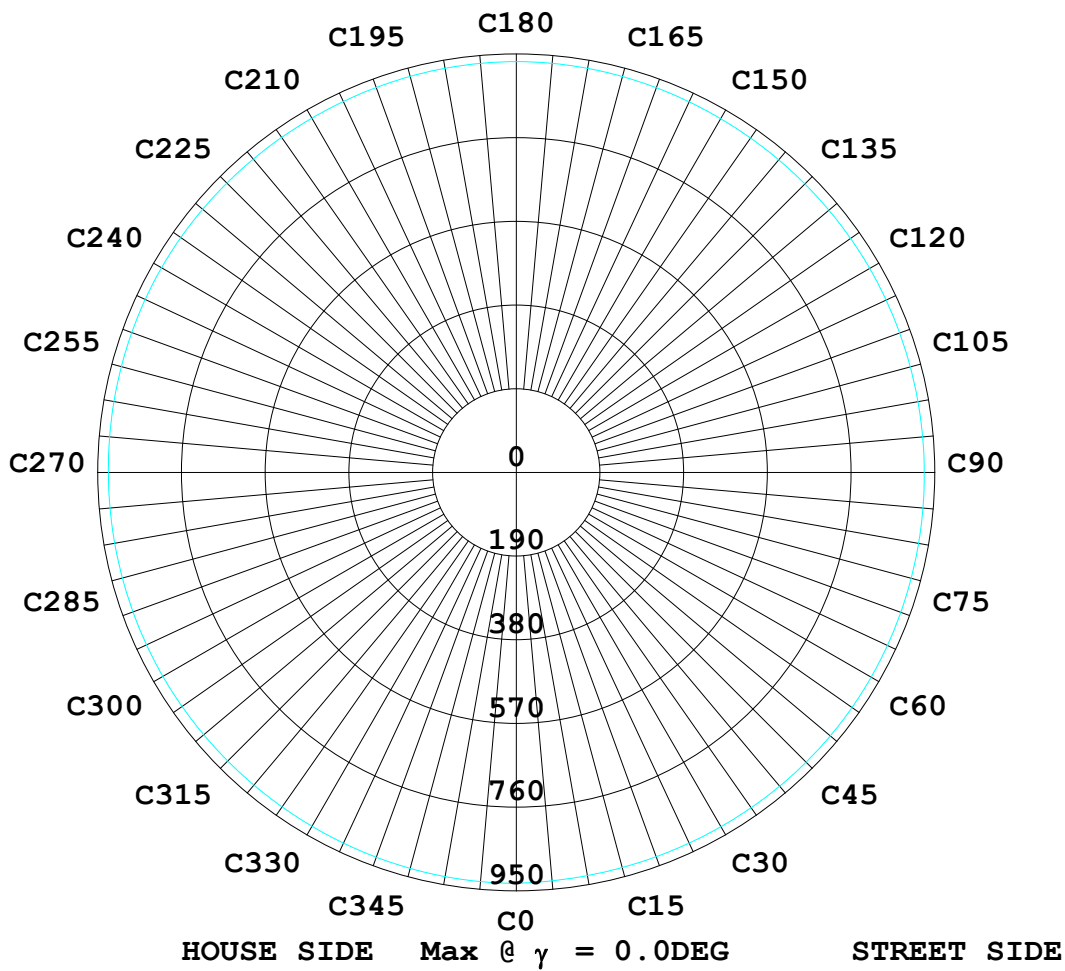
Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年12月1日

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

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: 1.2M-28W-5000K	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: