

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

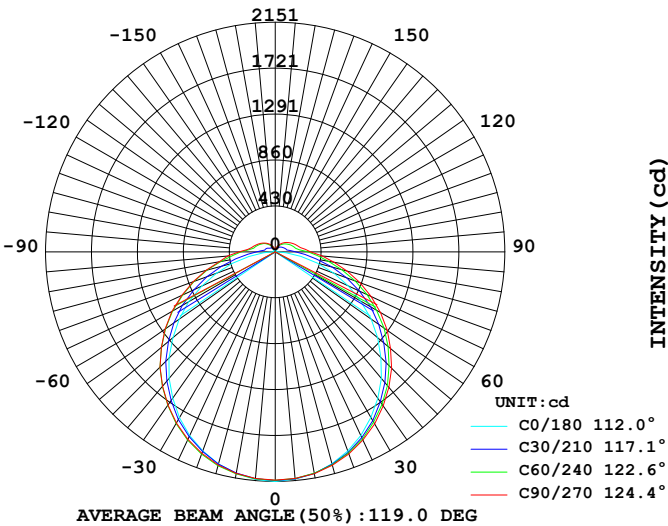
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

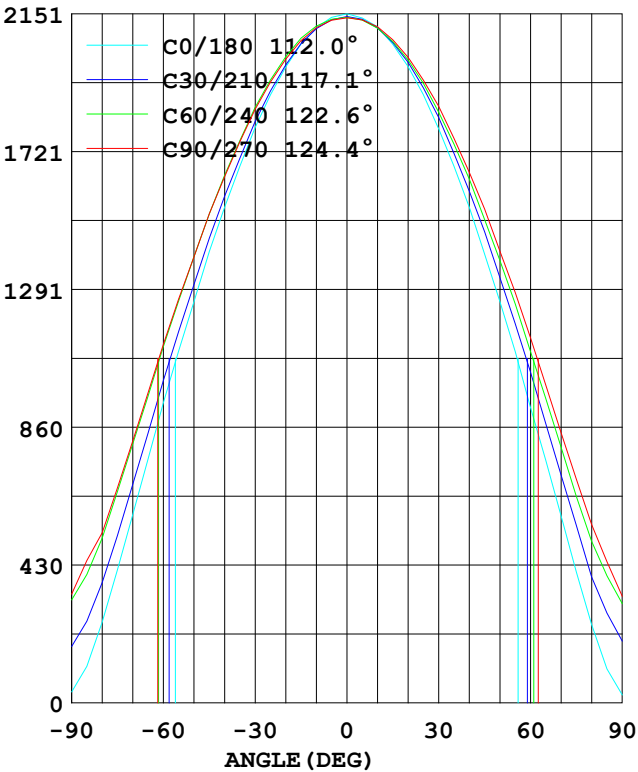
MANUFACTURER:		
Address:		
NAME: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	SERIAL No.:

DATA OF LAMP		Imax(cd)	2151	S/MH(C0/180)	1.24
MODEL		EFFICIENCY(%)	100.0	S/MH(C90/270)	1.29
NOMINAL POWER(W)	58	TOTAL FLUX(lm)	7350.1	Voltage(V)	220.1
RATED VOLTAGE(V)	220	EFFICIENCY(lm/W)	126.1	Current(A)	0.272
NOMINAL FLUX(lm)	7350.1	η up(%)	8.4	Power(W)	58.29
LAMPS QUANTITY	1	η down(%)	91.6	Power Factor(PF)	0.972
TEST VOLTAGE(V)	220.2	Effective Flux(lm)	6824.7	EEI	0.116

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23日

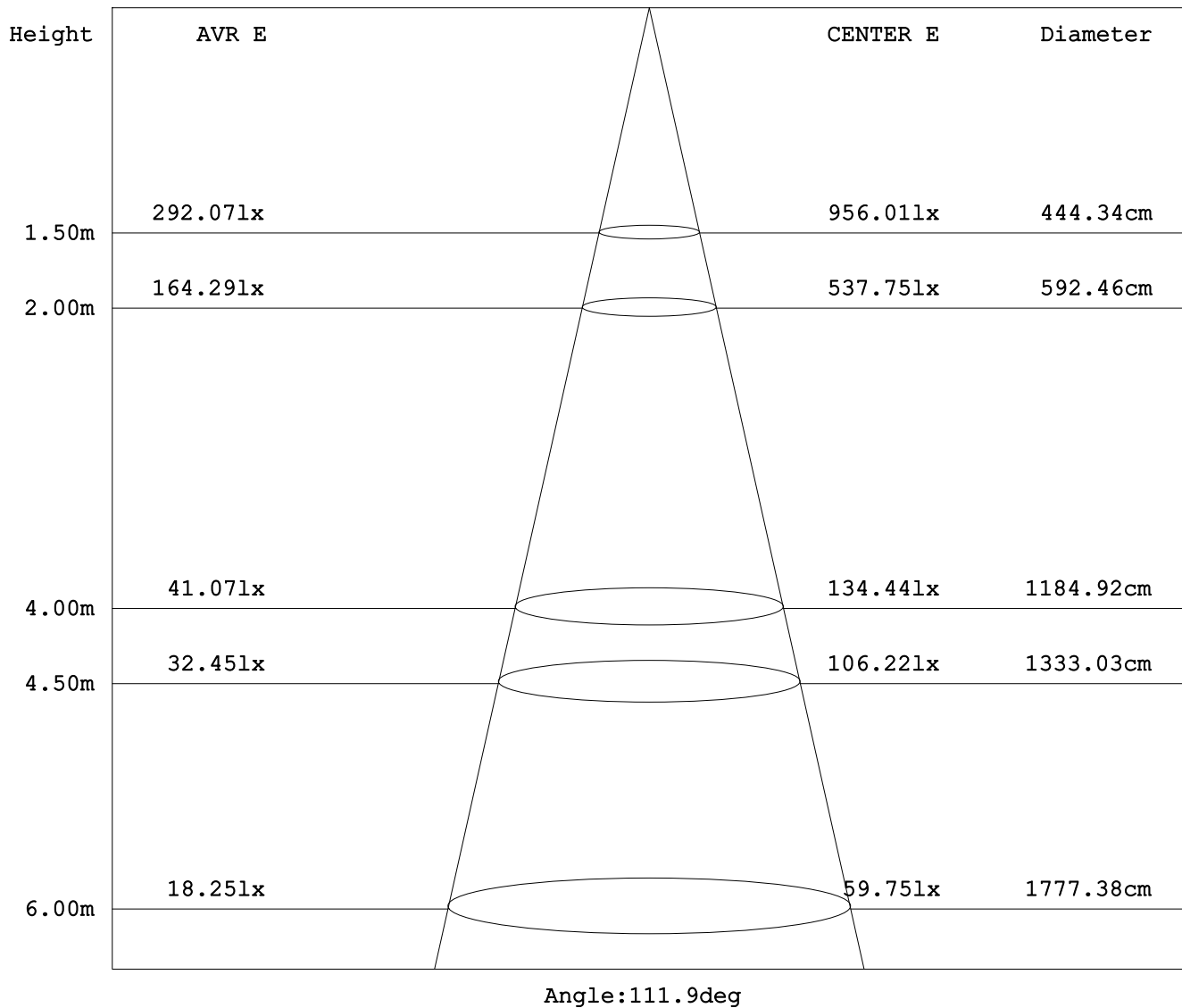
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23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: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	SERIAL No.:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total
10.0	2108	2108	2107	2092	2110	2106	2110	2092	0- 10	202.3	202.3
20.0	1985	2004	2009	1981	1986	2003	2015	1985	10- 20	580.7	783.1
30.0	1795	1837	1853	1809	1792	1835	1862	1813	20- 30	883.8	1667
40.0	1547	1613	1642	1582	1547	1616	1656	1588	30- 40	1074	2741
50.0	1252	1349	1392	1312	1253	1355	1410	1321	40- 50	1135	3876
60.0	936.9	1059	1119	1018	922.8	1065	1140	1025	50- 60	1063	4939
70.0	588.4	745.7	817.9	697.4	584.7	755.7	843.9	710.4	60- 70	871.0	5810
80.0	252.4	445.1	531.3	390.4	244.9	448.9	557.4	380.1	70- 80	595.9	6406
90.0	34.24	248.7	339.4	193.7	24.68	251.1	332.2	199.2	80- 90	328.7	6735
100.0	17.66	153.6	227.6	114.9	11.49	153.1	239.7	118.0	90-100	179.4	6914
110.0	17.66	134.4	191.5	101.8	14.03	133.6	201.7	103.5	100-110	130.0	7044
120.0	17.54	110.4	160.3	87.11	15.97	113.4	169.5	86.39	110-120	104.7	7149
130.0	19.35	90.02	130.0	73.20	17.66	93.83	138.3	67.76	120-130	78.90	7228
140.0	20.32	67.88	101.2	59.77	18.51	74.77	108.5	53.54	130-140	55.42	7284
150.0	20.81	49.97	73.44	46.82	19.60	57.41	81.19	43.62	140-150	35.48	7319
160.0	21.29	37.44	49.36	34.54	20.32	40.47	55.29	33.63	150-160	19.90	7339
170.0	21.78	26.68	29.03	25.22	21.05	26.98	32.30	24.68	160-170	8.952	7348
180.0	21.65	21.17	20.81	20.87	21.65	21.05	22.50	20.93	170-180	2.261	7350
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23日

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

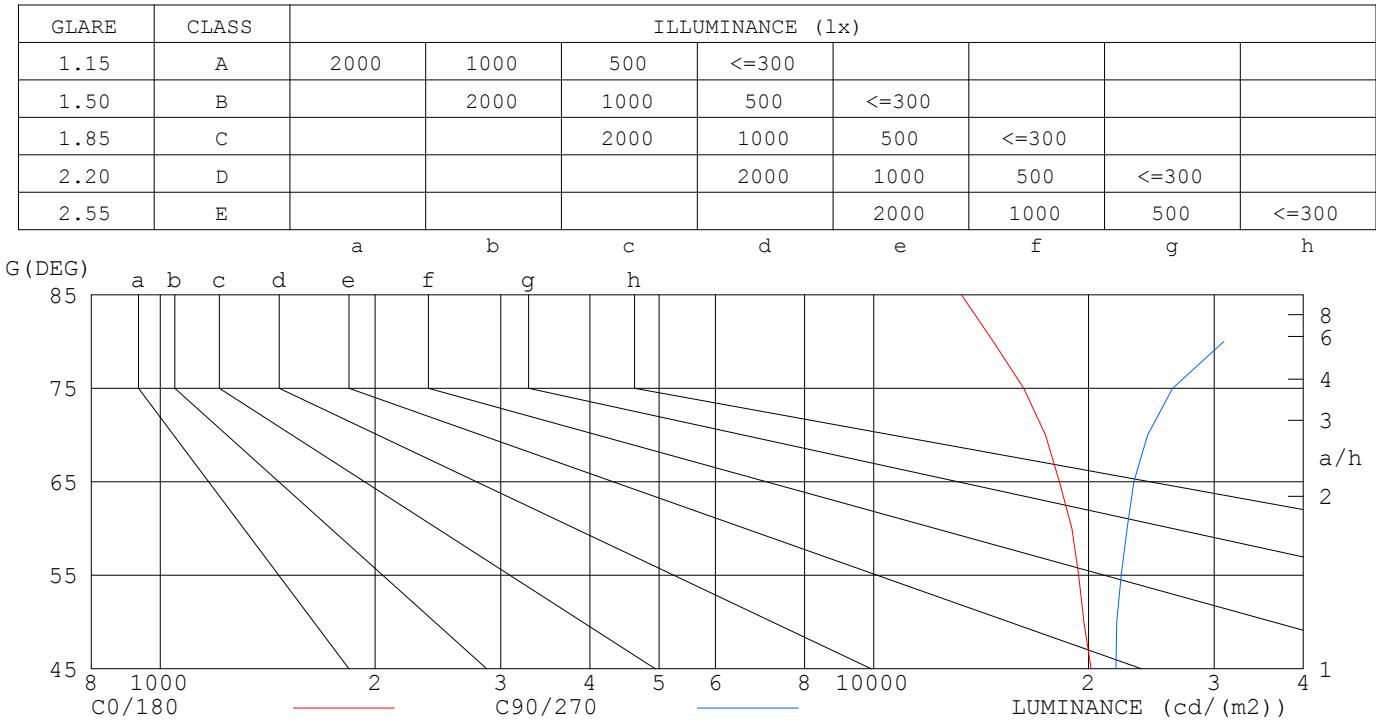
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:		
Address:		
NAME: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	SERIAL No.:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/ (m2)		
G (DEG)	C0/180	C90/270
85	13274	51591
80	14706	30956
75	16228	26228
70	17406	24196
65	18209	23153
60	18958	22648
55	19367	22229
50	19704	21908
45	20163	21845

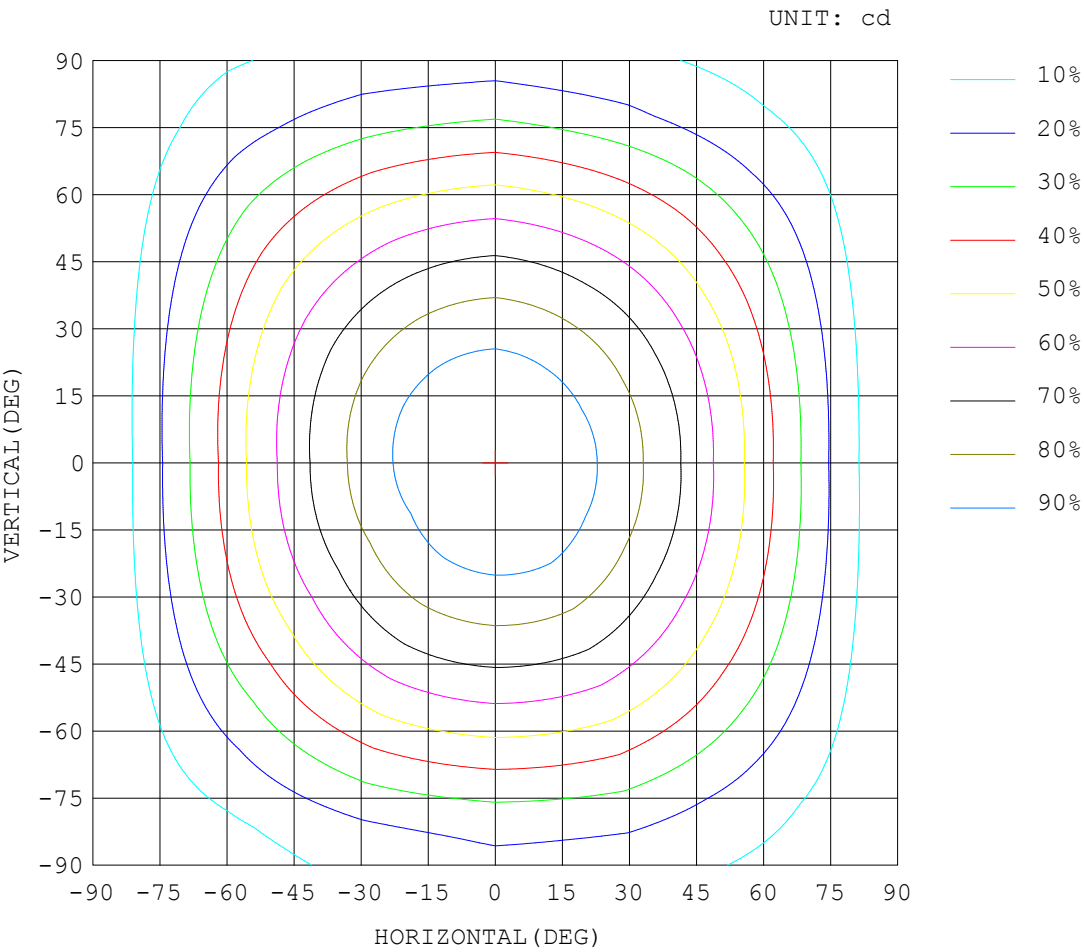
Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23日

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: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23日

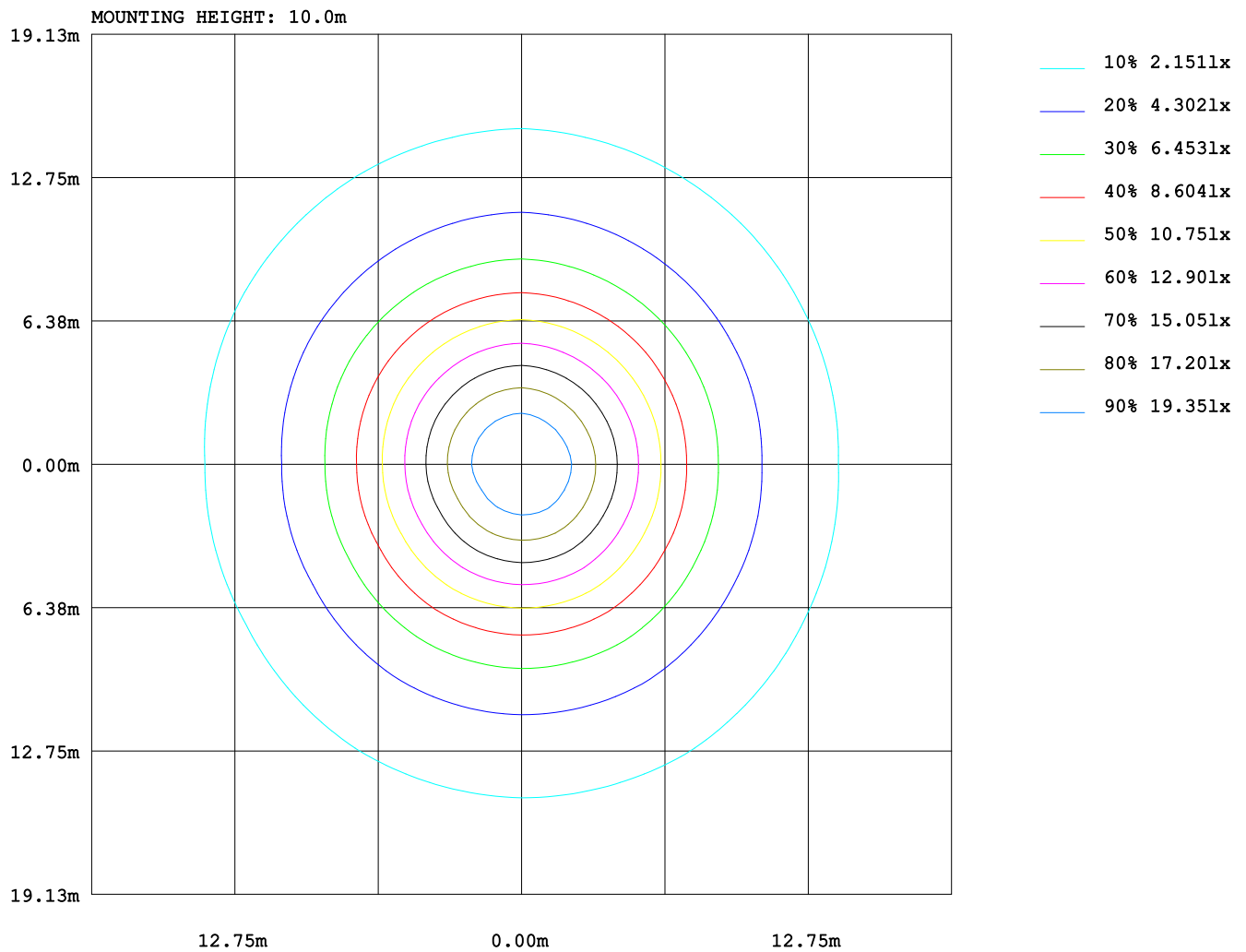
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23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: RE-T015S3-60WCFF-B41-TL										TYPE:					WEIGHT:					
SPECIFICATION:										DIMENSION: 1510*85MM					SERIAL No.:					

	AREA FLUX DIAGRAM																		UNIT:lm		Φ t	Φ a
	0.19	1.05	2.60	4.59	6.76	9.07	10.9	12.2	13.1	12.9	11.6	9.96	7.86	5.58	3.54	1.95	0.84	0.17	115	107		
90																						
80	0.24	1.39	3.60	6.60	10.0	13.6	16.9	19.3	20.8	20.6	18.6	15.8	12.4	8.68	5.26	2.85	1.17	0.22	178	175		
70	0.28	1.78	4.83	9.27	14.3	19.5	24.2	27.6	29.7	29.4	27.0	23.2	18.4	13.2	8.19	4.01	1.53	0.26	257	255		
60	0.32	2.20	6.22	11.9	18.5	25.2	31.2	35.7	38.3	38.1	35.1	30.3	24.2	17.5	11.1	5.67	1.95	0.30	335	333		
50	0.35	2.61	7.48	14.4	22.4	30.5	37.7	43.1	46.1	45.9	42.5	36.8	29.6	21.5	13.6	7.09	2.42	0.35	405	404		
40	0.39	2.96	8.53	16.4	25.6	34.9	43.2	49.5	52.9	52.7	48.9	42.4	34.1	24.8	15.8	8.23	2.84	0.38	465	464		
30	0.41	3.23	9.31	17.9	28.1	38.4	47.6	54.6	58.4	58.2	54.0	46.9	37.7	27.5	17.6	9.11	3.16	0.41	513	512		
VERTICAL (DEG)	0.42	3.38	9.78	18.9	29.6	40.7	50.7	58.2	62.1	61.9	57.6	50.1	40.2	29.3	18.7	9.69	3.36	0.43	546	545		
	0.42	3.41	9.90	19.2	30.2	41.7	52.1	60.0	64.1	63.8	59.7	51.9	41.5	30.2	19.2	9.93	3.43	0.44	562	561		
	0.42	3.38	9.82	19.1	30.0	41.4	51.8	59.6	63.8	64.1	59.9	52.0	41.6	30.2	19.2	9.95	3.44	0.44	561	560		
	0.41	3.29	9.55	18.5	29.0	39.9	49.8	57.5	61.9	62.3	58.2	50.5	40.4	29.5	18.8	9.74	3.39	0.44	544	543		
	0.39	3.09	8.93	17.2	27.1	37.2	46.7	54.1	58.1	58.4	54.8	47.5	38.1	27.7	17.7	9.20	3.22	0.43	510	510		
	0.36	2.77	8.01	15.5	24.3	33.7	42.4	48.9	52.5	52.7	49.7	43.3	34.6	25.2	16.1	8.36	2.94	0.40	462	462		
	0.32	2.38	6.83	13.2	21.1	29.3	36.9	42.5	45.6	45.9	43.2	37.9	30.3	22.0	13.9	7.27	2.58	0.36	402	401		
	0.27	1.92	5.48	10.6	17.2	24.1	30.5	35.0	37.7	37.9	35.7	31.5	25.2	18.1	11.5	5.99	2.16	0.32	332	330		
	0.23	1.46	4.04	7.95	13.0	18.4	23.3	26.8	28.9	29.1	27.4	24.3	19.5	14.0	8.86	4.64	1.73	0.28	254	252		
	0.19	1.04	2.69	5.26	8.71	12.5	15.9	18.4	20.0	20.2	19.1	17.1	13.8	9.91	6.31	3.38	1.33	0.24	176	172		
-90	0.14	0.72	1.69	3.18	5.21	7.52	9.68	11.4	12.8	13.1	12.3	11.1	9.13	6.60	4.30	2.40	1.01	0.20	113	103		
	-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)					20	30	40	50	60	70	80	90	
Φ t	5.75	42.1	119	230	362	499	622	715	768	768	716	623	499	362	230	120	42.5	6.09	7350			
Φ a	0.68	35.5	115	227	361	499	622	715	768	768	716	623	499	362	228	114	35.8	0.75		6825		

Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23日

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

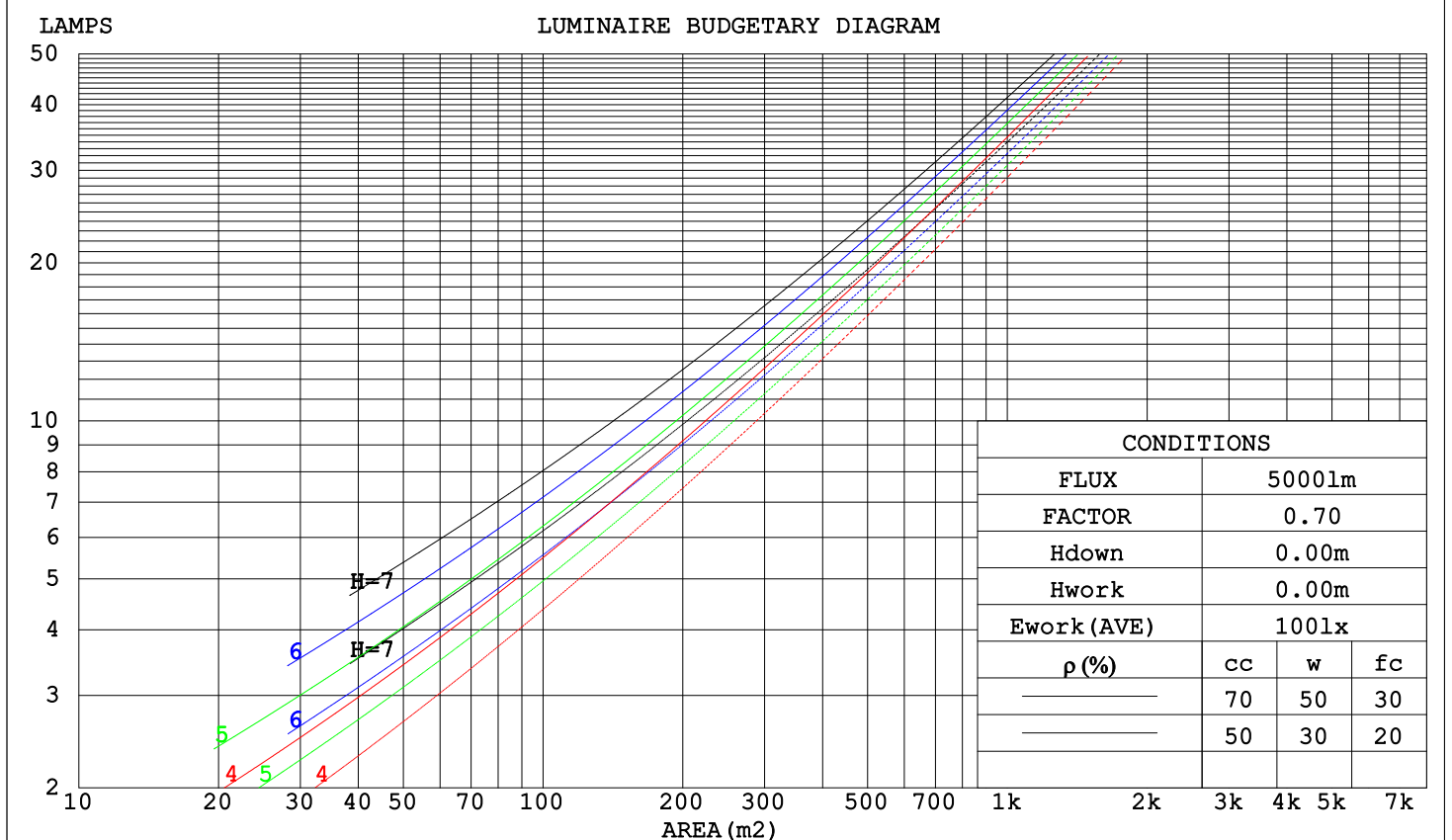
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: RE-T015S3-60WCFF-B41-TL								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 1510*85MM				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09月23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: RE-T015S3-60WCFF-B41-TL								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 1510*85MM				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															Wall Exitance Coefficients (WEC)														
0.0																														
1.0	.344	.196	.062	.335	.191	.061	.316	.182	.058	.300	.173	.055	.284	.165	.053															
2.0	.311	.170	.052	.302	.166	.051	.286	.159	.049	.271	.152	.048	.257	.145	.046															
3.0	.282	.150	.045	.274	.147	.044	.260	.141	.043	.246	.135	.041	.233	.129	.040															
4.0	.257	.134	.039	.250	.131	.039	.237	.126	.038	.225	.121	.036	.213	.116	.035															
5.0	.236	.120	.035	.229	.118	.034	.218	.113	.033	.207	.109	.032	.196	.105	.032															
6.0	.217	.109	.031	.212	.107	.031	.201	.103	.030	.191	.099	.029	.182	.096	.028															
7.0	.201	.100	.028	.196	.098	.028	.187	.094	.027	.178	.091	.026	.169	.088	.026															
8.0	.188	.092	.026	.183	.090	.025	.174	.087	.025	.166	.084	.024	.158	.081	.024															
9.0	.175	.085	.024	.171	.083	.023	.163	.081	.023	.155	.078	.022	.148	.075	.022															
10.0	.164	.079	.022	.161	.078	.022	.153	.075	.021	.146	.073	.021	.140	.070	.020															

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						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.254	.254	.254	.217	.217	.217	.148	.148	.148	.085	.085	.085	.027	.027	.027	
1.0	.247	.220	.196	.211	.189	.169	.145	.130	.117	.083	.075	.068	.027	.024	.022	
2.0	.239	.197	.160	.205	.169	.139	.141	.117	.097	.081	.068	.057	.026	.022	.018	
3.0	.232	.179	.138	.199	.155	.119	.136	.108	.084	.079	.063	.049	.025	.020	.016	
4.0	.224	.167	.123	.192	.144	.106	.132	.100	.075	.077	.059	.044	.025	.019	.015	
5.0	.217	.156	.112	.186	.135	.097	.128	.095	.069	.074	.055	.041	.024	.018	.013	
6.0	.209	.148	.104	.180	.128	.091	.124	.090	.064	.072	.053	.038	.023	.017	.013	
7.0	.202	.141	.099	.174	.123	.086	.120	.086	.061	.070	.051	.036	.023	.017	.012	
8.0	.196	.136	.095	.169	.118	.082	.117	.083	.058	.068	.049	.035	.022	.016	.012	
9.0	.190	.131	.091	.163	.114	.080	.113	.080	.057	.066	.047	.034	.021	.015	.011	
10.0	.184	.127	.089	.158	.110	.077	.110	.077	.055	.064	.046	.033	.021	.015	.011	

Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2022年09月23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: RE-T015S3-60WCFF-B41-TL						TYPE:		WEIGHT:		
SPECIFICATION:						DIMENSION: 1510*85MM		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				
x = 2H y = 2H						22.6	24.1	23.0	24.4	24.8
3H						24.2	25.5	24.6	25.9	26.3
4H						24.8	26.0	25.2	26.4	26.9
6H						25.2	26.4	25.6	26.8	27.3
8H						25.3	26.4	25.8	26.9	27.3
12H						25.4	26.5	25.8	26.9	27.4
4H 2H						23.4	24.7	23.8	25.1	25.5
3H						25.1	26.3	25.6	26.7	27.2
4H						25.9	26.9	26.4	27.4	27.9
6H						26.5	27.4	27.0	27.9	28.4
8H						26.6	27.5	27.2	28.0	28.6
12H						26.8	27.6	27.3	28.1	28.7
8H 4H						26.4	27.3	26.9	27.8	28.3
6H						27.2	27.9	27.8	28.5	29.1
8H						27.5	28.1	28.1	28.7	29.3
12H						27.8	28.3	28.4	28.9	29.6
12H 4H						26.5	27.3	27.1	27.8	28.4
6H						27.4	28.1	28.0	28.6	29.3
8H						27.8	28.4	28.4	29.0	29.6
Variations with the observer position at spacings:										
S = 1.0H		+ 0.1 / - 0.1					+ 0.1 / - 0.1			
1.5H		+ 0.2 / - 0.3					+ 0.2 / - 0.3			
2.0H		+ 0.2 / - 0.3					+ 0.2 / - 0.3			

CIE Pub.117 Corrected 7350 lm Total Lamp Luminous Flux. (8log(F/F0) = 6.9)

Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2022年09月23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: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	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) $k(RI) \times RCR = 5$									
$k = 0.60$	53	41	34	52	41	34	51	40	34	27
0.80	63	50	43	61	50	43	59	49	42	34
1.00	71	59	51	69	58	51	66	59	50	42
1.25	78	66	59	76	65	58	72	63	57	48
1.50	83	72	64	81	71	63	77	68	62	53
2.00	90	80	73	87	79	72	83	76	70	60
2.50	94	85	78	91	83	77	86	80	74	64
3.00	98	90	83	95	88	82	89	84	79	68
4.00	102	95	90	99	93	88	93	88	84	73
5.00	105	99	94	101	96	92	95	91	88	76
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

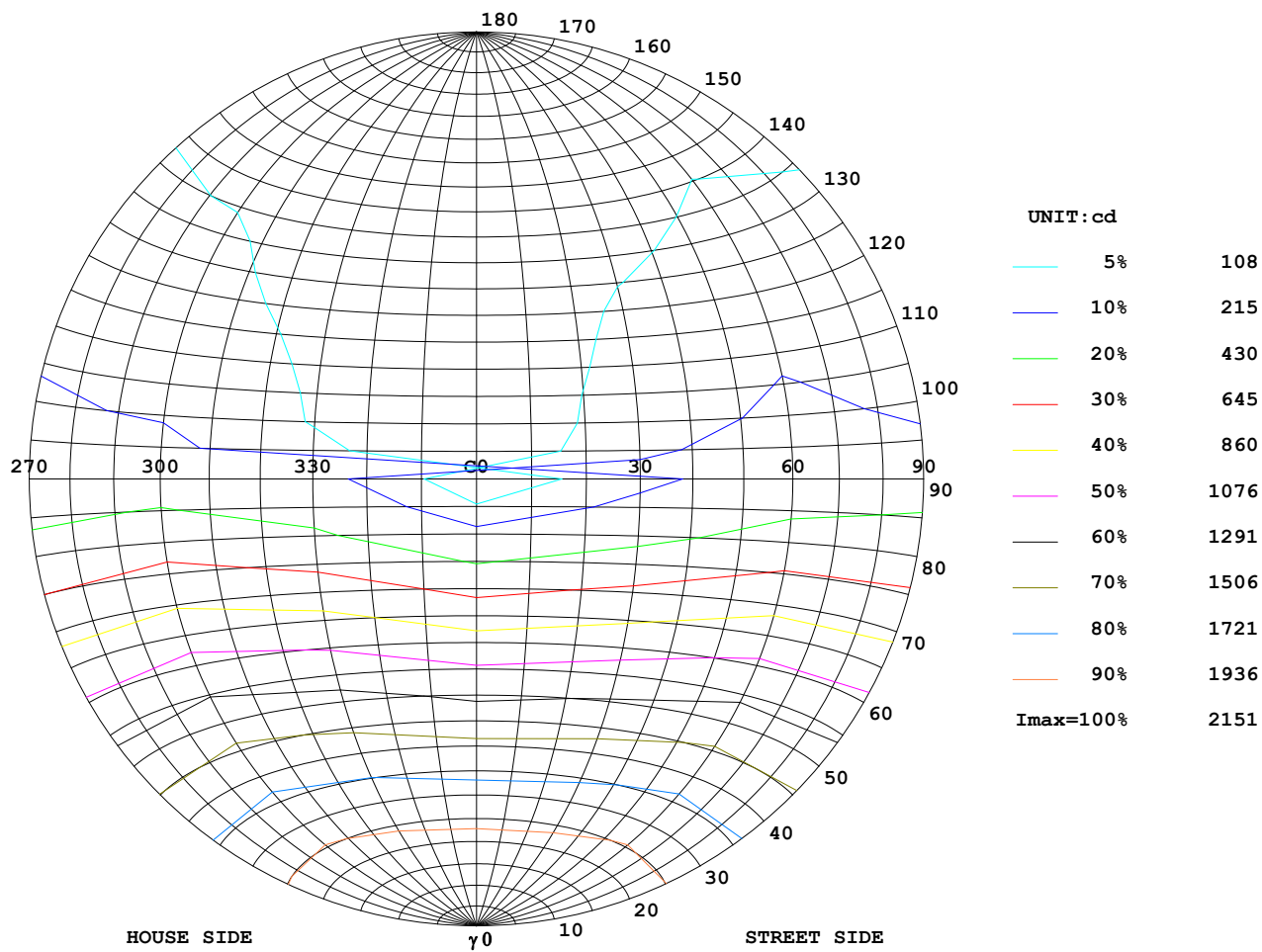
Test System:HOPOO HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:2022年09月23日

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: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23日

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

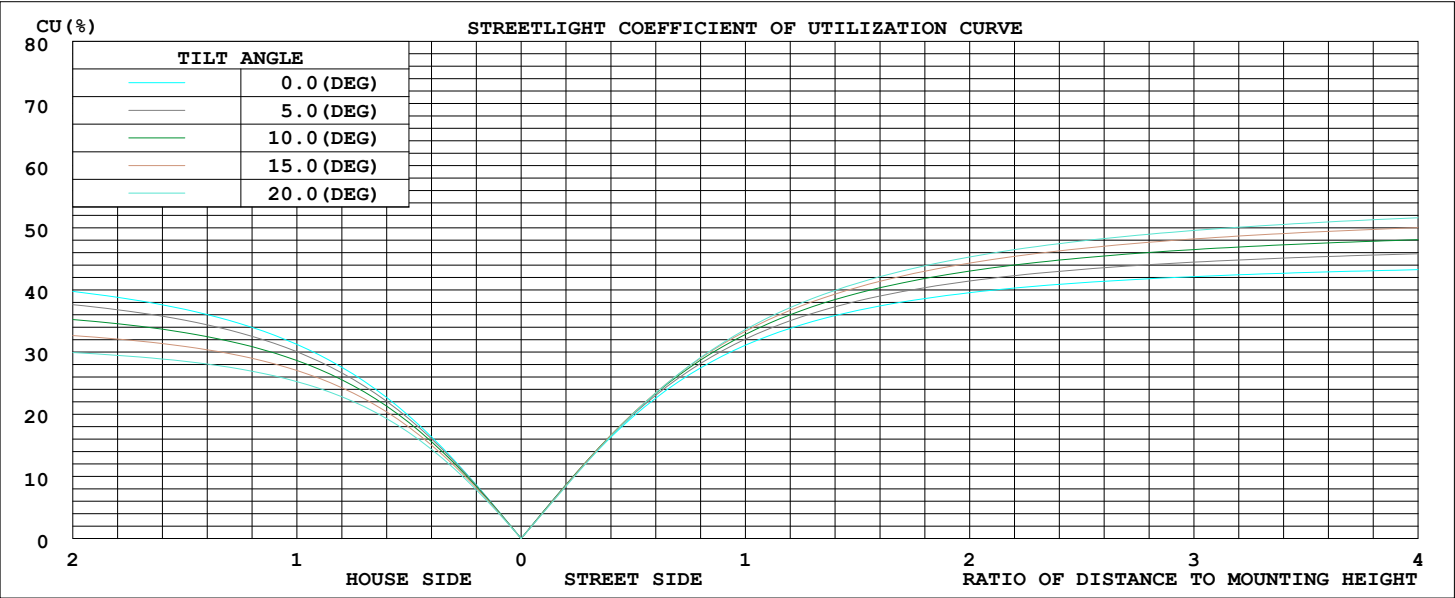
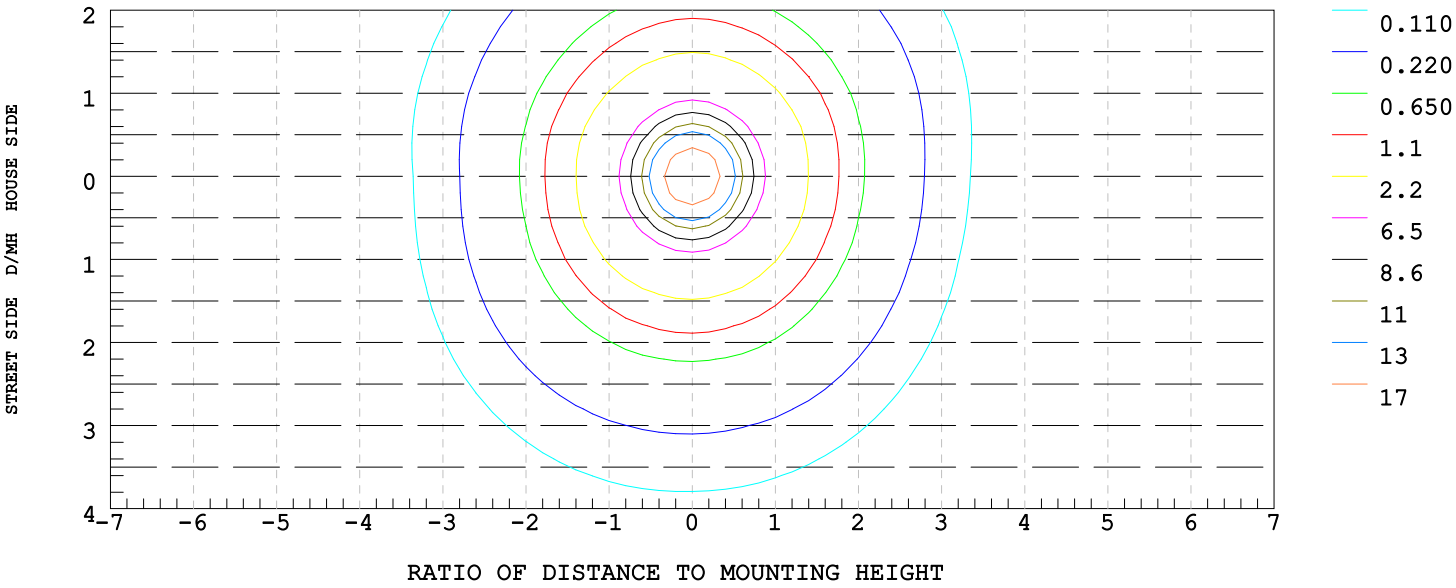
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	SERIAL No.:

ILLUMINANCE AT MH=10 m,Enadir = 21.51 lx



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23日

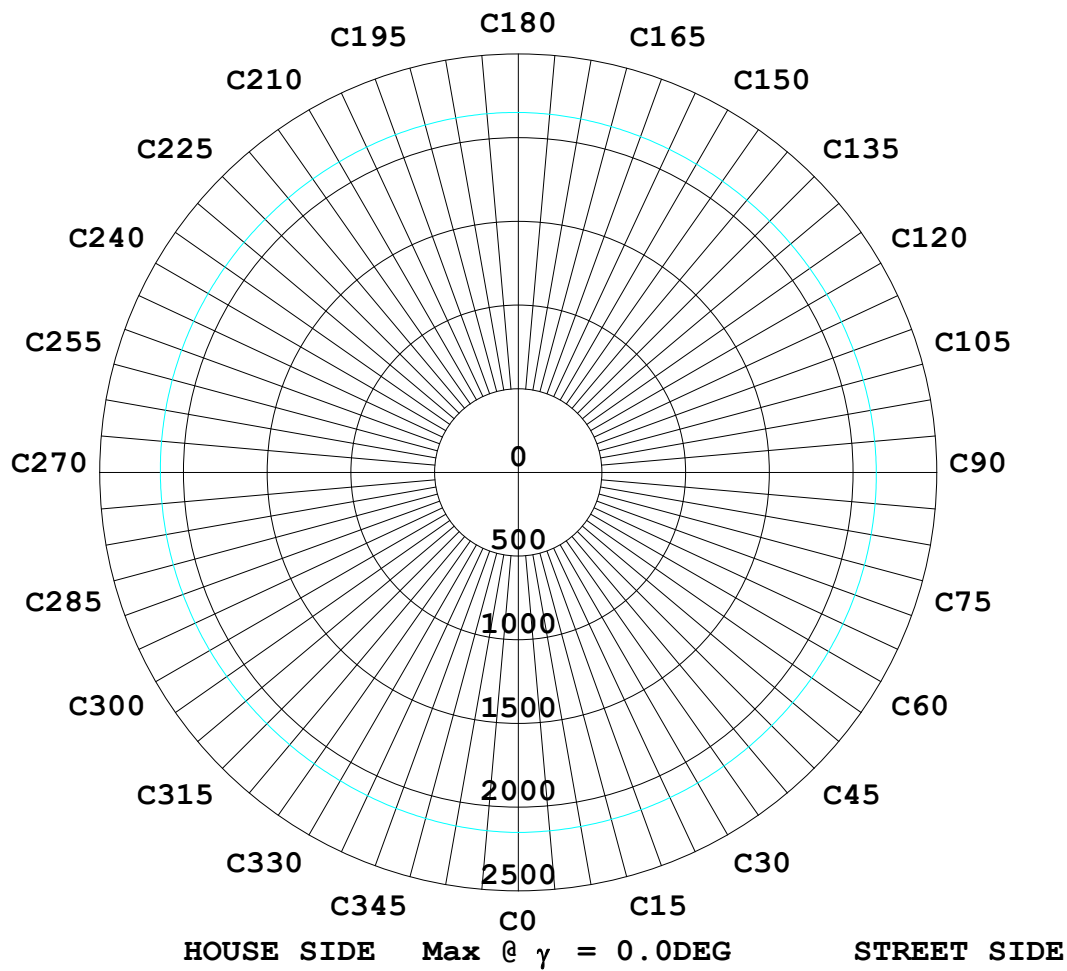
Test Set: 10.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.000 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: RE-T015S3-60WCFF-B41-TL	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1510*85MM	SERIAL No.:



Test System:HOPOO HPG1800
Temperature:25.3DEG
Operators:
Test Date:2022年09月23日

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