

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

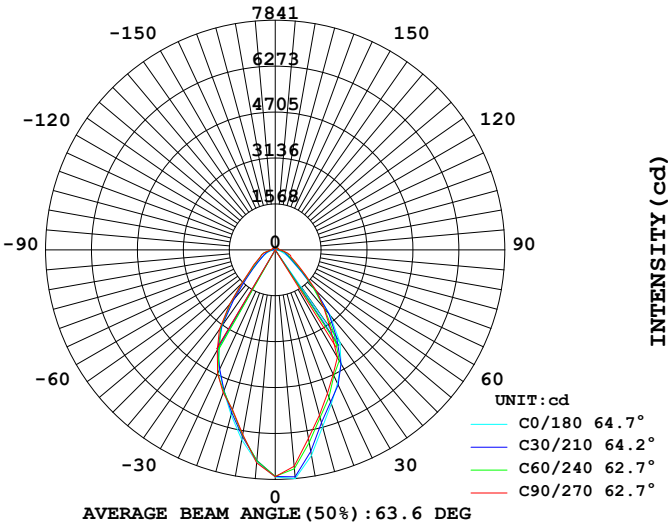
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

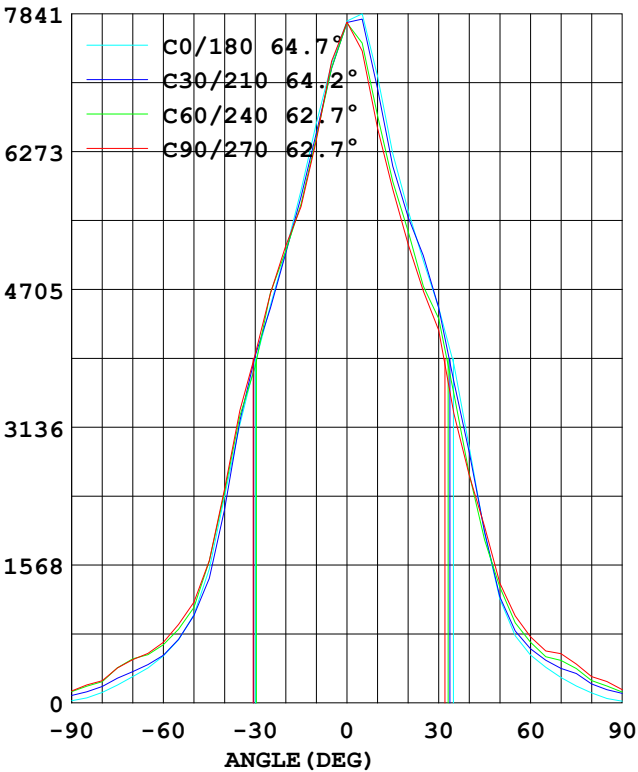
MANUFACTURER:		
Address:		
NAME: RE-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	SERIAL No.:

DATA OF LAMP		Imax(cd)	7841	S/MH(C0/180)	0.81
MODEL		EFFICIENCY(%)	100.0	S/MH(C90/270)	0.84
NOMINAL POWER(W)	66	TOTAL FLUX(lm)	10217	Voltage(V)	219.8
RATED VOLTAGE(V)	220	EFFICIENCY(lm/W)	154.5	Current(A)	0.304
NOMINAL FLUX(lm)	10217.5	$\eta$ up(%)	4.4	Power(W)	66.12
LAMPS QUANTITY	1	$\eta$ down(%)	95.6	Power Factor(PF)	0.987
TEST VOLTAGE(V)	219.8	Effective Flux(lm)	8513.6	EEI	0.106

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年09月24日

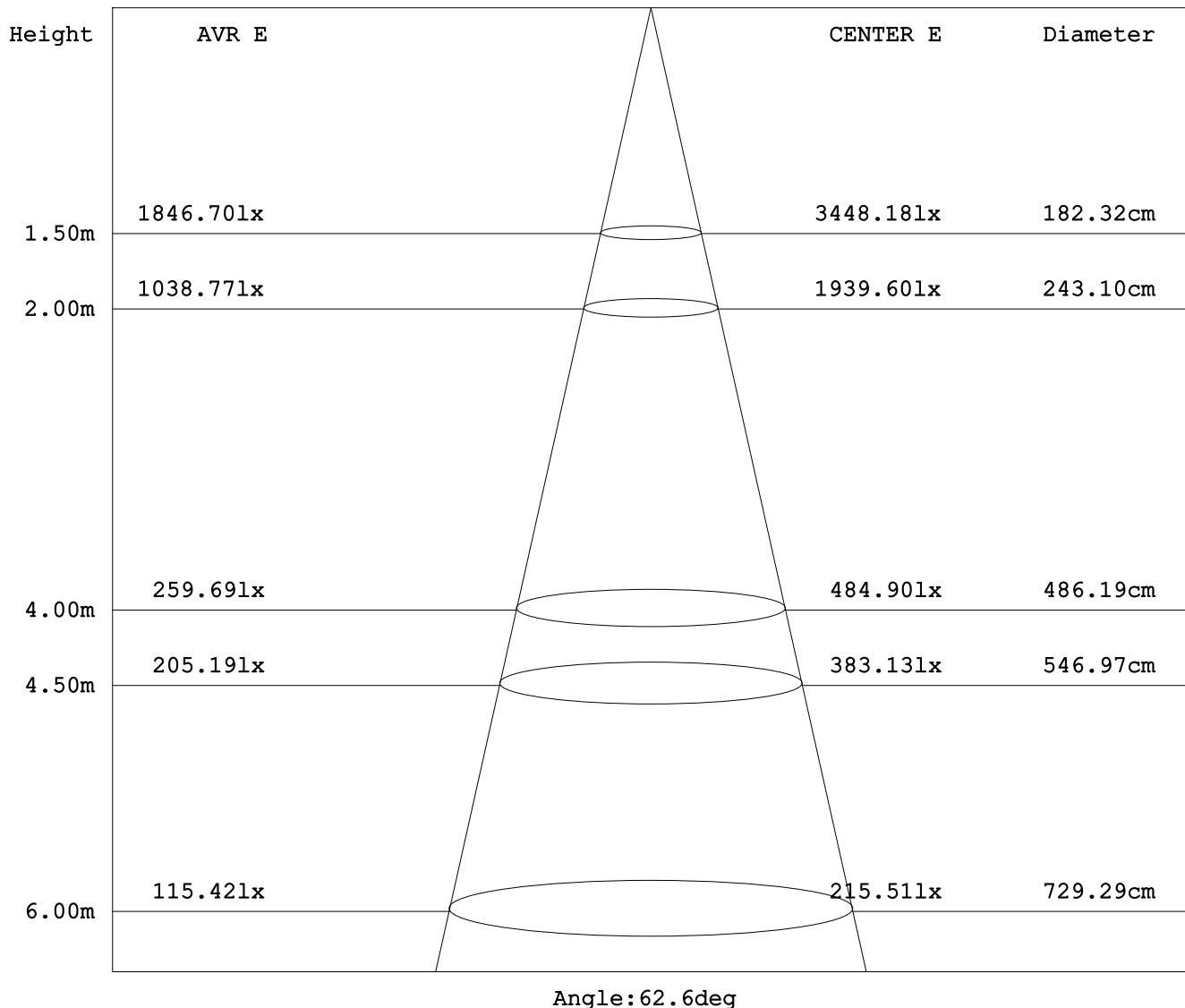
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME: RE-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	SERIAL No.:



Test System: HOPOO HPG1800  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022年09月24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-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	SERIAL No.:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total
10.0	6591	6456	6398	6740	7131	6835	6538	6482	0- 10	684.7	684.7
20.0	5137	5127	5197	5359	5602	5448	5219	5200	10- 20	1662	2346
30.0	3864	3883	3961	4272	4497	4434	4240	4053	20- 30	2176	4522
40.0	2351	2297	2430	2660	2910	2726	2589	2372	30- 40	2106	6628
50.0	1003	1041	1147	1085	1183	1262	1363	1124	40- 50	1364	7992
60.0	534.6	602.0	688.9	594.1	545.7	653.7	752.2	622.2	50- 60	760.0	8752
70.0	300.2	428.5	492.9	404.9	287.7	438.4	559.7	466.8	60- 70	503.0	9255
80.0	119.0	214.1	251.9	198.5	113.2	234.8	299.9	222.7	70- 80	347.6	9603
90.0	25.04	107.1	135.2	95.52	18.87	115.4	150.5	101.5	80- 90	165.9	9769
100.0	15.24	84.57	125.9	71.93	9.559	87.78	136.0	75.68	90-100	94.26	9863
110.0	17.18	83.36	113.9	73.80	13.18	89.05	127.1	76.41	100-110	81.26	9944
120.0	21.65	76.16	105.1	69.57	18.99	84.94	119.6	72.53	110-120	74.17	10018
130.0	28.67	68.00	92.44	61.22	27.22	74.59	106.2	62.85	120-130	62.14	10080
140.0	37.14	59.41	80.82	57.41	35.81	66.30	91.35	56.93	130-140	48.97	10129
150.0	45.73	58.50	65.46	58.68	44.40	60.86	73.81	56.56	140-150	36.95	10166
160.0	53.36	65.40	70.54	64.55	52.87	60.01	67.76	58.62	150-160	27.68	10194
170.0	59.65	64.31	68.60	62.31	59.04	59.29	63.16	59.10	160-170	17.63	10212
180.0	62.55	60.92	59.89	59.59	62.43	60.50	61.22	59.83	170-180	5.822	10217
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年09月24日

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

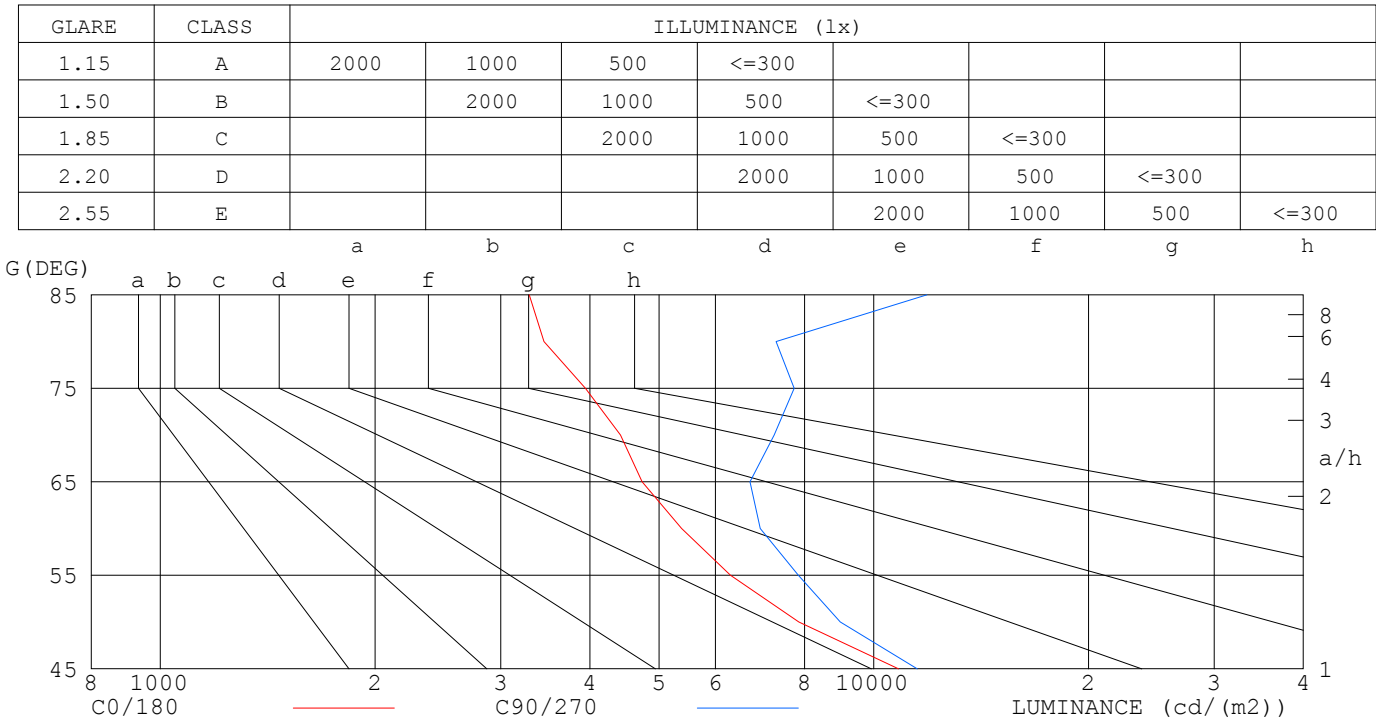
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:		
Address:		
NAME: RE-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	SERIAL No.:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/ (m2)		
G (DEG)	C0/180	C90/270
85	3289	11872
80	3449	7298
75	3944	7735
70	4415	7250
65	4735	6707
60	5379	6931
55	6296	7840
50	7853	8975
45	10832	11506

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年09月24日

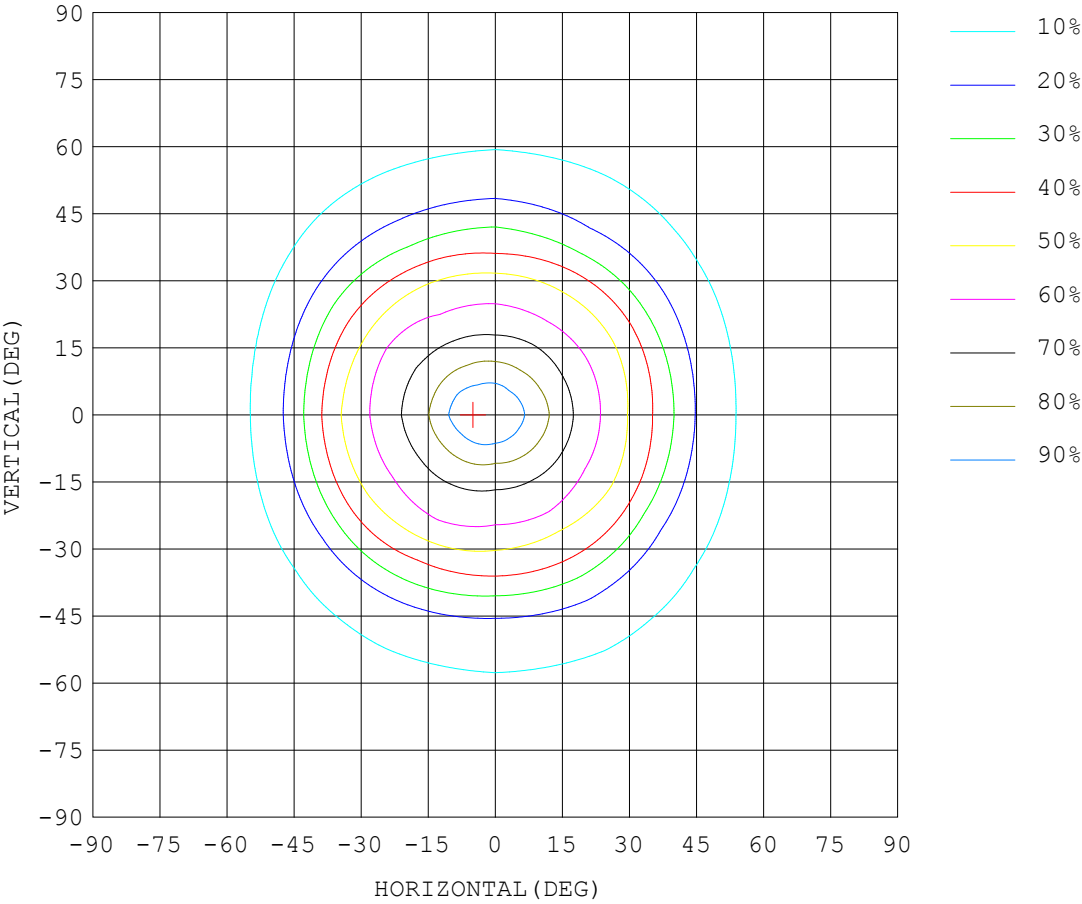
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: RE-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	SERIAL No.:

UNIT: cd



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年09月24日

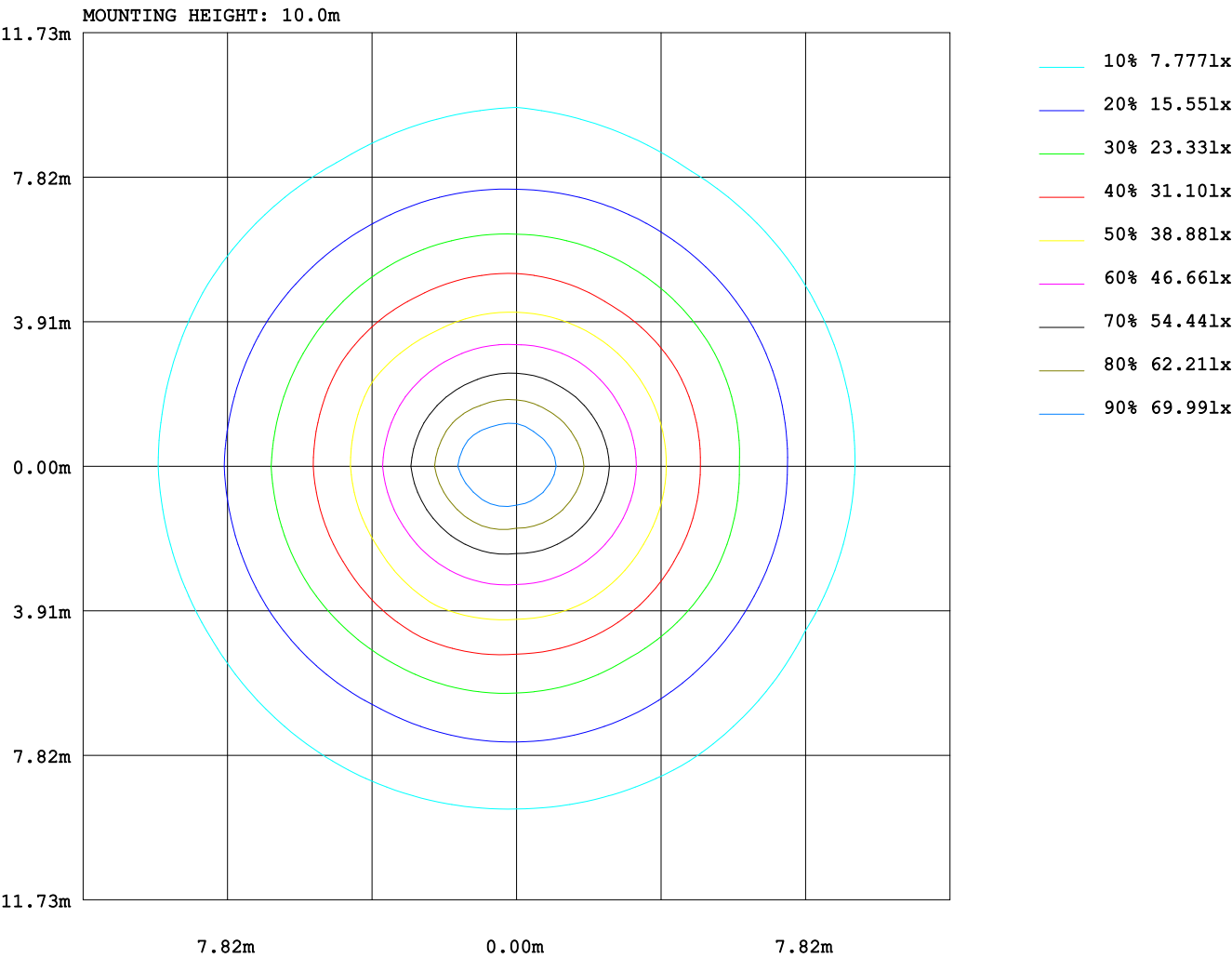
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: RE-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	SERIAL No.:



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年09月24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-RIP5S3-68N1NR-PC-00										TYPE:					WEIGHT:				
SPECIFICATION:										DIMENSION: 1451*65mm					SERIAL No.:				

		AREA FLUX DIAGRAM																		UNIT:lm			Φ t	Φ a
VERTICAL (DEG)	90	0.11	0.59	1.42	2.40	3.34	4.32	5.28	6.16	6.85	6.82	6.08	5.13	4.07	3.00	2.04	1.19	0.52	0.11	59.5	0.00			
	80	0.13	0.74	1.93	3.57	5.50	7.67	9.78	11.5	12.8	13.3	12.8	11.5	8.61	5.42	3.16	1.66	0.67	0.13	111	0.00			
	70	0.15	0.92	2.64	5.44	8.42	11.4	14.1	16.6	18.4	18.7	17.5	15.9	12.8	8.72	4.88	2.33	0.85	0.15	160	0.00			
	60	0.16	1.13	3.49	6.73	10.4	15.1	20.8	26.4	30.2	29.9	25.7	20.3	14.8	10.0	5.92	3.10	1.06	0.16	226	112			
	50	0.18	1.35	4.06	8.03	13.8	23.1	36.4	49.6	58.6	57.3	46.3	32.9	21.3	12.8	7.19	3.69	1.28	0.18	378	317			
	40	0.19	1.52	4.55	9.64	19.0	38.6	64.8	88.1	101	98.9	83.1	57.6	33.4	17.2	8.87	4.24	1.47	0.20	633	589			
	30	0.20	1.63	5.00	11.4	27.2	61.2	99.8	129	142	139	121	90.7	51.4	23.5	10.6	4.75	1.60	0.21	922	887			
		0.20	1.67	5.32	13.2	36.3	80.9	126	157	176	173	148	113	69.0	30.0	12.2	5.13	1.68	0.22	1148	1119			
		0.20	1.65	5.42	14.3	42.1	92.2	137	179	217	208	167	123	77.6	34.1	13.0	5.32	1.71	0.21	1319	1293			
		0.20	1.62	5.34	14.1	41.5	91.8	136	177	215	207	166	122	77.0	33.6	12.9	5.32	1.71	0.21	1309	1282			
		0.20	1.58	5.08	12.6	34.4	79.8	122	155	173	170	147	111	66.8	28.6	12.0	5.15	1.69	0.22	1126	1096			
	-30	0.19	1.48	4.59	10.6	24.8	57.8	97.5	127	141	137	118	88.0	47.8	22.1	10.4	4.79	1.61	0.21	895	860			
	-40	0.18	1.33	3.98	8.65	17.0	34.3	61.7	85.3	97.8	96.3	81.7	55.8	30.9	16.5	8.75	4.32	1.47	0.20	607	561			
	-50	0.16	1.15	3.33	6.78	12.3	20.5	31.7	43.6	50.8	50.2	42.4	30.9	20.3	12.4	7.29	3.77	1.28	0.18	340	274			
	-60	0.14	0.94	2.69	5.29	9.35	14.1	19.3	23.8	26.8	26.8	23.9	19.6	14.4	9.90	6.08	3.11	1.06	0.17	208	80.5			
	-70	0.12	0.73	2.02	4.11	7.41	11.2	14.4	16.1	17.3	17.3	16.2	14.4	11.4	7.96	4.75	2.34	0.86	0.15	149	0.00			
-80	0.11	0.55	1.40	2.72	4.69	7.32	9.74	11.0	11.6	11.6	10.9	9.63	7.44	5.06	3.14	1.68	0.67	0.13	99.5	0.00				
-90	0.09	0.42	0.96	1.73	2.76	3.93	4.90	5.51	5.94	5.98	5.63	5.08	4.19	3.09	2.07	1.19	0.52	0.11	54.1	0.00				
		-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)				20	30	40	50	60	70	80	90			
Φ t	2.90	21.0	63.3	142	321	656	1012	1307	1501	1467	1240	928	574	284	136	63.1	21.7	3.15	10217					
Φ a	0.00	0.00	0.00	30.8	230	569	927	1224	1420	1384	1156	839	481	188	21.4	0.00	0.00	0.00		8514				

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年09月24日

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

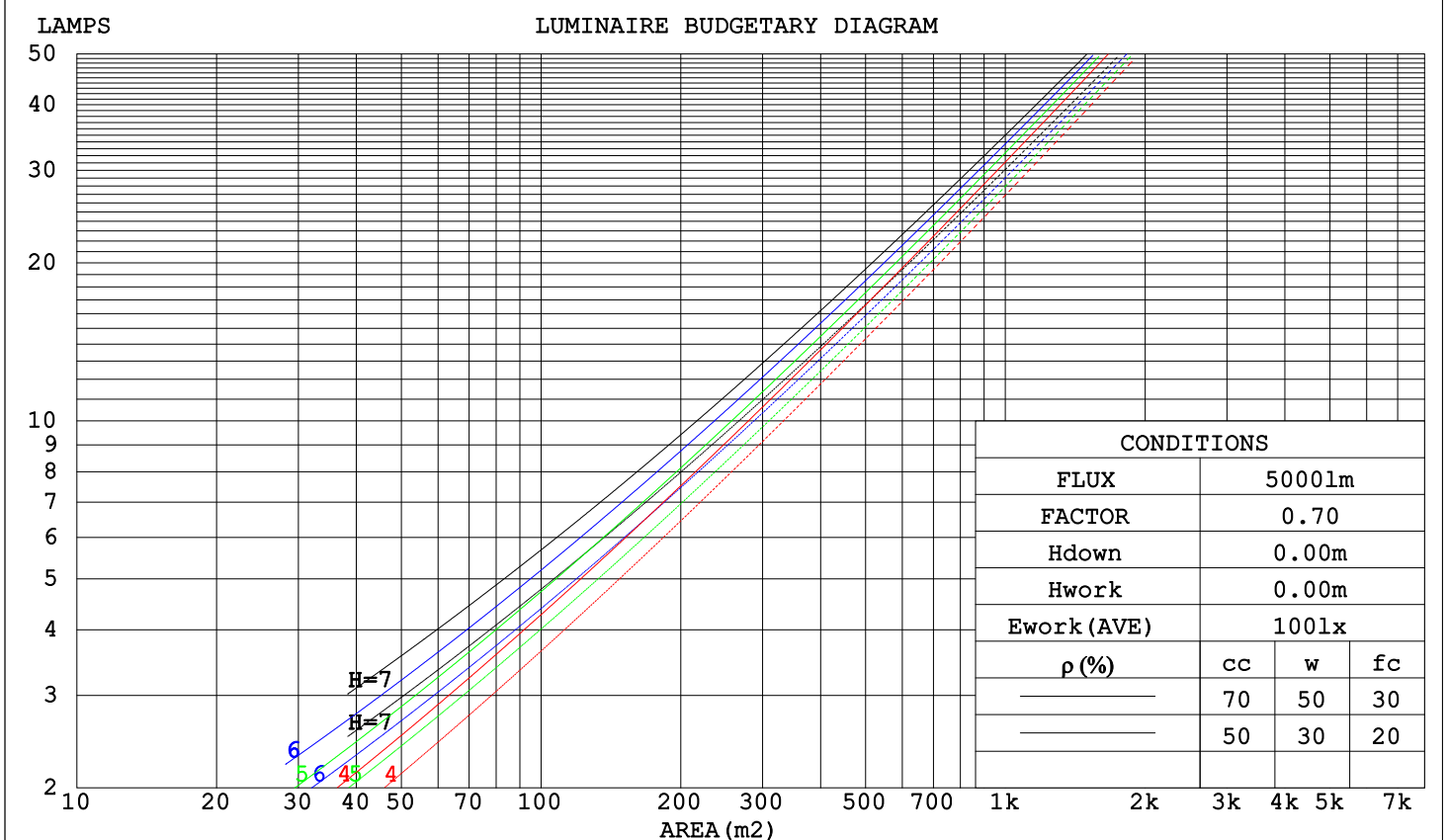
# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME: RE-RIP5S3-68N1NR-PC-00								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 1451*65mm				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09月24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-RIP5S3-68N1NR-PC-00								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION: 1451*65mm				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	.251	.143	.045	.242	.138	.044	.227	.130	.042	.213	.123	.039	.200	.116	.037	
2.0	.234	.128	.039	.227	.125	.039	.214	.119	.037	.201	.113	.035	.190	.107	.034	
3.0	.218	.116	.035	.212	.114	.034	.200	.108	.033	.189	.104	.032	.179	.099	.031	
4.0	.204	.106	.031	.198	.104	.031	.188	.099	.030	.178	.095	.029	.169	.092	.028	
5.0	.191	.097	.028	.186	.095	.028	.176	.092	.027	.168	.088	.026	.159	.085	.026	
6.0	.179	.090	.026	.174	.088	.025	.166	.085	.025	.158	.082	.024	.151	.079	.024	
7.0	.168	.083	.024	.164	.082	.023	.157	.079	.023	.150	.077	.022	.143	.074	.022	
8.0	.159	.078	.022	.155	.076	.022	.148	.074	.021	.142	.072	.021	.136	.070	.020	
9.0	.150	.073	.020	.147	.072	.020	.141	.070	.020	.135	.068	.019	.129	.066	.019	
10.0	.143	.068	.019	.140	.067	.019	.134	.066	.018	.128	.064	.018	.123	.062	.018	

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	.224	.224	.224	.191	.191	.191	.131	.131	.131	.075	.075	.075	.024	.024	.024	
1.0	.210	.190	.173	.180	.163	.149	.123	.112	.103	.071	.065	.060	.023	.021	.019	
2.0	.199	.166	.139	.170	.143	.120	.117	.099	.084	.067	.058	.049	.022	.019	.016	
3.0	.189	.148	.116	.162	.128	.100	.111	.089	.070	.064	.052	.041	.021	.017	.014	
4.0	.180	.134	.099	.154	.116	.086	.106	.081	.061	.061	.047	.036	.020	.015	.012	
5.0	.172	.123	.088	.148	.107	.076	.102	.075	.054	.059	.044	.032	.019	.014	.011	
6.0	.165	.115	.079	.142	.099	.069	.098	.070	.048	.057	.041	.029	.018	.013	.010	
7.0	.159	.108	.072	.136	.093	.063	.094	.065	.044	.055	.039	.026	.018	.013	.009	
8.0	.153	.102	.067	.131	.088	.058	.091	.062	.041	.053	.037	.025	.017	.012	.008	
9.0	.147	.097	.063	.127	.084	.055	.088	.059	.039	.051	.035	.023	.017	.011	.008	
10.0	.142	.092	.060	.122	.080	.052	.085	.057	.037	.050	.033	.022	.016	.011	.007	

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年09月24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-RIP5S3-68N1NR-PC-00					TYPE:			WEIGHT:			
SPECIFICATION:					DIMENSION: 1451*65mm			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	18.4	17.5	18.7	18.9	18.1	19.3	18.4	19.5	19.8	
	3H	18.0	19.1	18.3	19.4	19.7	19.5	20.6	19.8	20.9	21.2
	4H	18.3	19.3	18.7	19.7	20.0	20.2	21.2	20.5	21.5	21.9
	6H	18.5	19.5	18.9	19.8	20.2	20.6	21.6	21.0	22.0	22.3
	8H	18.5	19.5	18.9	19.8	20.2	21.0	21.9	21.4	22.3	22.6
	12H	18.6	19.5	19.0	19.8	20.2	21.3	22.2	21.7	22.6	23.0
4H 2H	17.6	18.6	17.9	18.9	19.3	18.3	19.4	18.7	19.7	20.0	
	3H	18.6	19.5	19.0	19.9	20.3	20.1	21.0	20.5	21.4	21.8
	4H	19.1	19.9	19.5	20.3	20.7	20.9	21.8	21.4	22.1	22.6
	6H	19.5	20.2	19.9	20.6	21.0	21.6	22.3	22.0	22.7	23.2
	8H	19.5	20.2	20.0	20.7	21.1	22.0	22.7	22.5	23.1	23.6
	12H	19.6	20.3	20.1	20.7	21.2	22.5	23.1	23.0	23.5	24.0
8H 4H	19.5	20.2	20.0	20.6	21.1	21.1	21.8	21.6	22.2	22.7	
	6H	20.0	20.6	20.5	21.1	21.6	21.9	22.5	22.4	23.0	23.5
	8H	20.2	20.7	20.8	21.2	21.8	22.5	23.0	23.1	23.5	24.1
	12H	20.5	20.9	21.0	21.4	22.0	23.2	23.6	23.7	24.1	24.7
12H 4H	19.6	20.2	20.0	20.6	21.1	21.1	21.7	21.6	22.2	22.6	
	6H	20.2	20.7	20.7	21.2	21.7	22.0	22.5	22.5	23.0	23.5
	8H	20.5	20.9	21.0	21.4	22.0	22.7	23.1	23.2	23.6	24.2
Variations with the observer position at spacings:											
S = 1.0H	+ 0.5 / - 0.6					+ 0.3 / - 0.4					
1.5H	+ 0.9 / - 0.6					+ 0.4 / - 0.4					
2.0H	+ 1.1 / - 0.7					+ 0.7 / - 0.6					

CIE Pub.117 Corrected 10217 lm Total Lamp Luminous Flux. (8log(F/F0) = 8.1)

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年09月24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-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	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) $k(RI) \times RCR = 5$									
$k = 0.60$	70	61	55	69	60	55	68	60	55	49
0.80	79	70	64	78	69	64	76	68	63	58
1.00	85	77	71	84	76	71	82	76	70	64
1.25	91	83	77	90	82	77	87	80	76	70
1.50	95	87	82	93	86	81	90	84	80	73
2.00	100	93	88	98	92	87	94	89	85	78
2.50	103	97	92	101	95	91	96	92	88	80
3.00	105	100	95	103	98	94	99	95	91	83
4.00	108	104	100	106	102	98	101	98	95	86
5.00	110	106	103	107	104	101	102	100	97	88
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24日

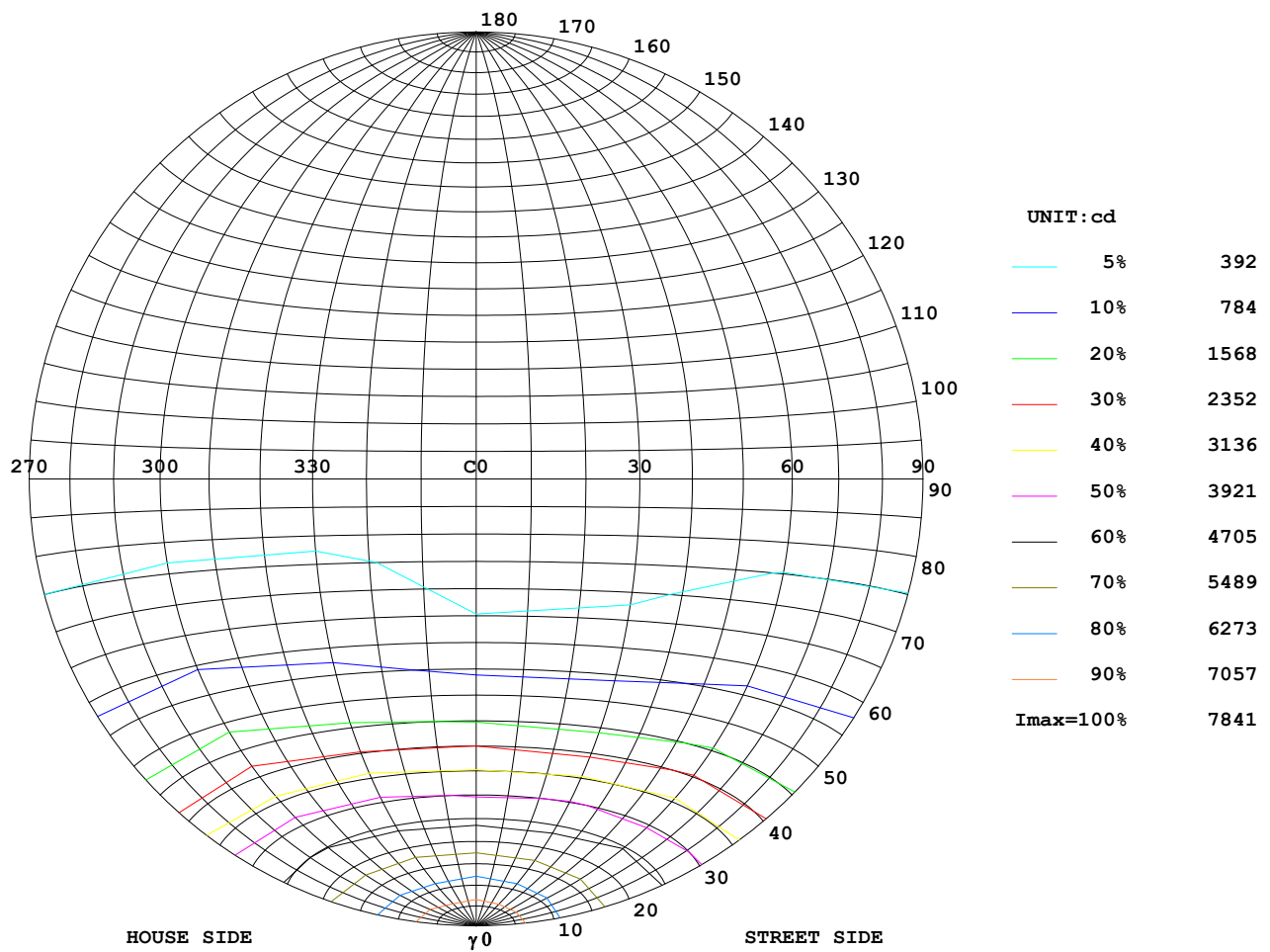
Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: RE-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	SERIAL No.:



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年09月24日

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

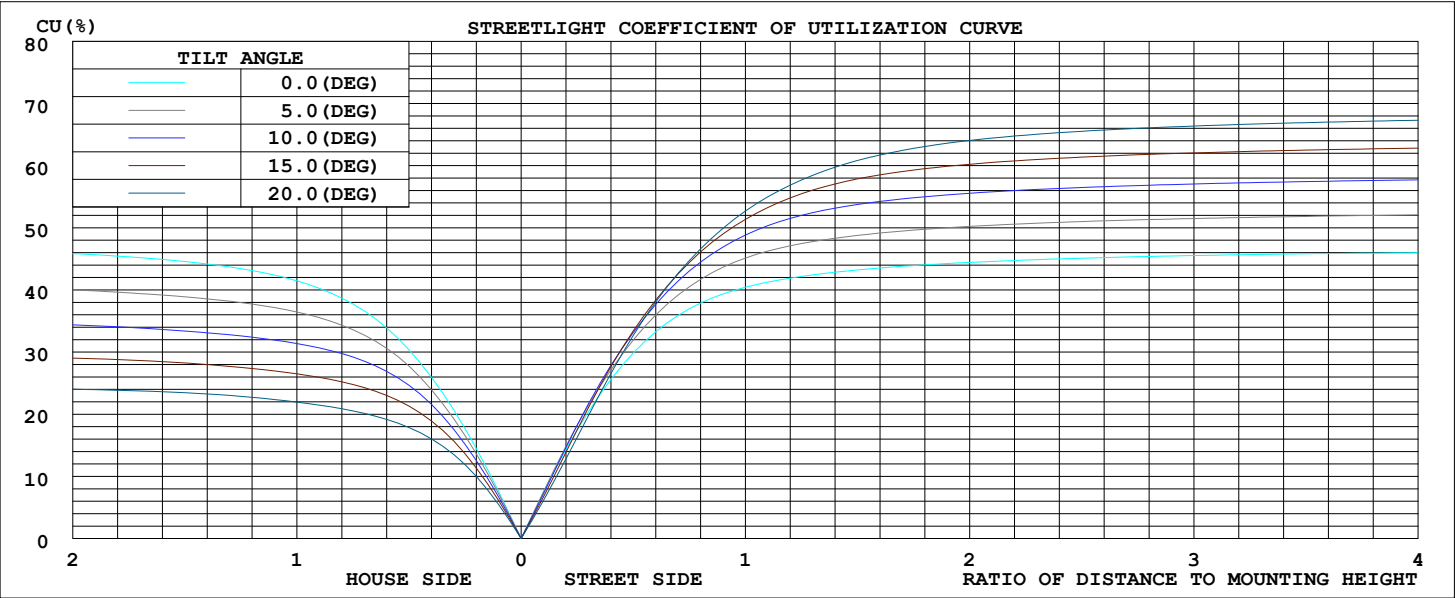
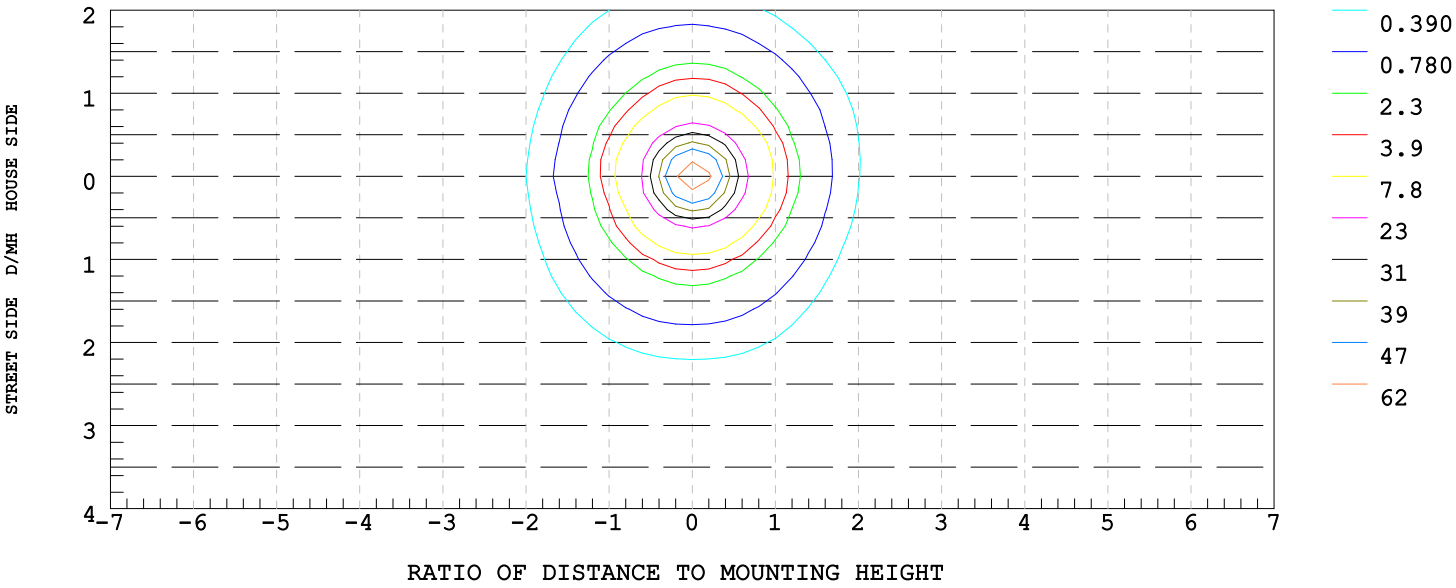
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME: RE-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	SERIAL No.:

ILLUMINANCE AT MH=10 m,Enadir = 77.58 lx



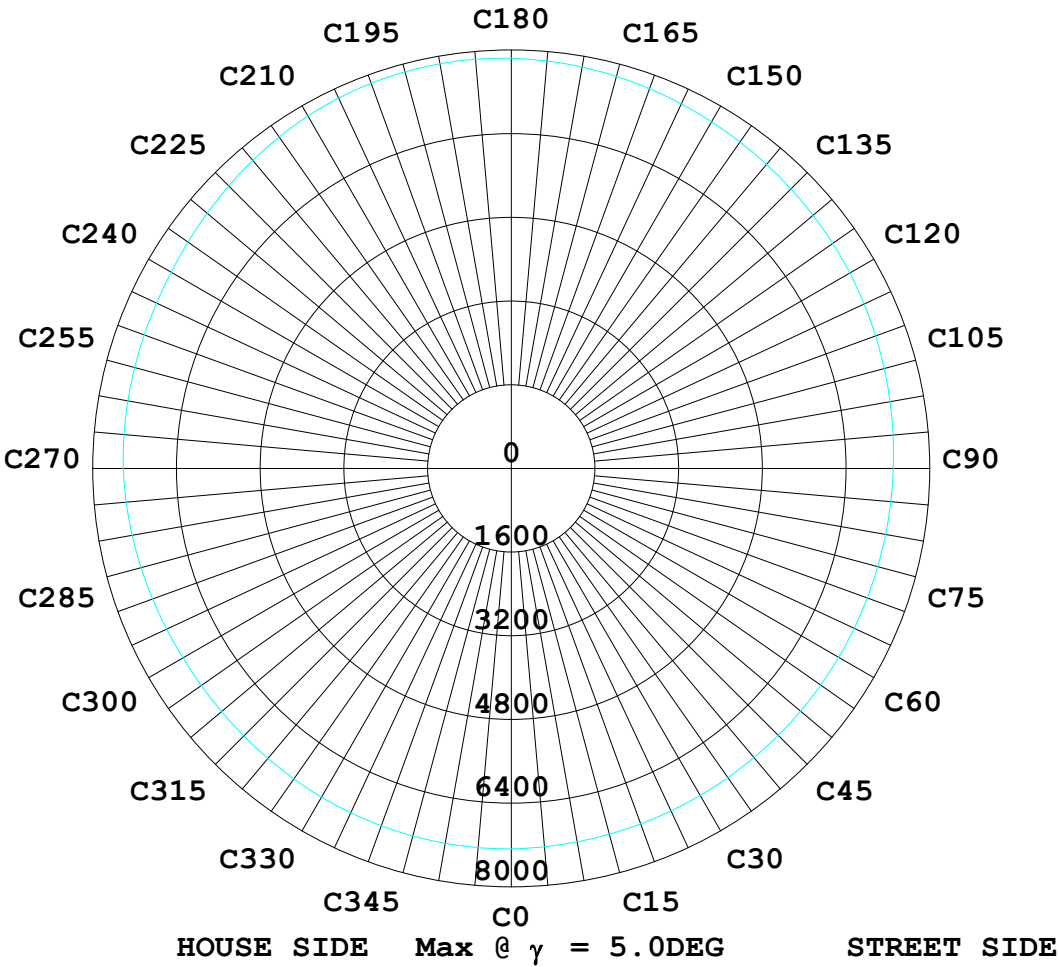
Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年09月24日

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-RIP5S3-68N1NR-PC-00	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION: 1451*65mm	SERIAL No.:



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年09月24日

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