

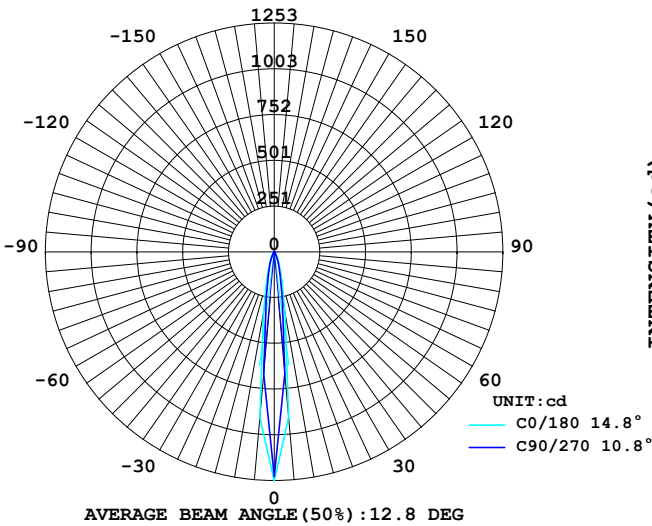
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

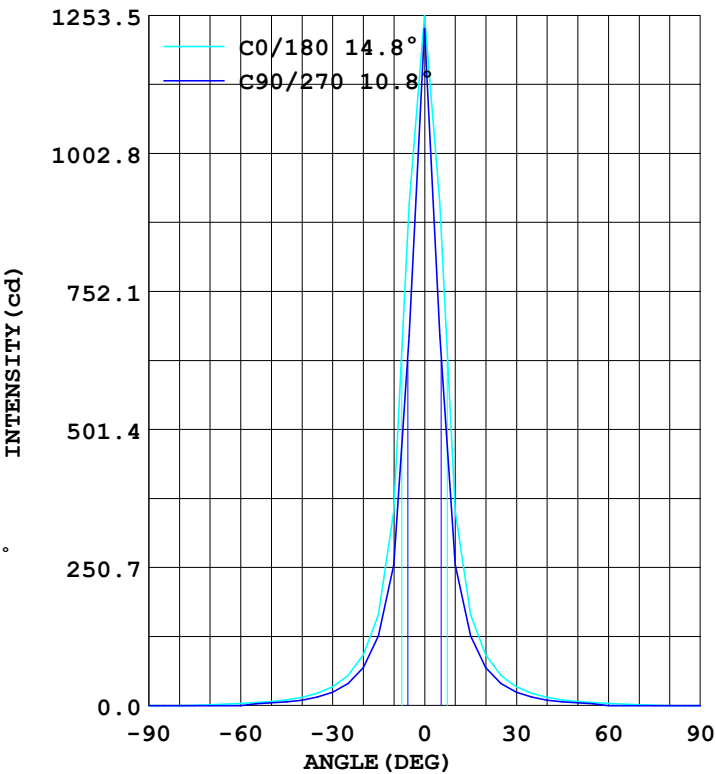
MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:

DATA OF LAMP		Imax(cd)	1253	S/MH (C0/180)	0.25
MODEL		EFFICIENCY (%)	100.0	S/MH (C90/270)	0.19
NOMINAL POWER(W)	3	TOTAL FLUX(lm)	156.02	Voltage(V)	230.3
RATED VOLTAGE (V)	230	EFFICIENCY (lm/W)	49.1	Current(A)	0.025
NOMINAL FLUX(lm)	156.0	η up (%)	0.0	Power (W)	3.180
LAMPS QUANTITY	1	η down (%)	100.0	Power Factor (PF)	0.554
TEST VOLTAGE (V)	230.3	Effective Flux(lm)	100.7	EEI	0.000 (E)

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



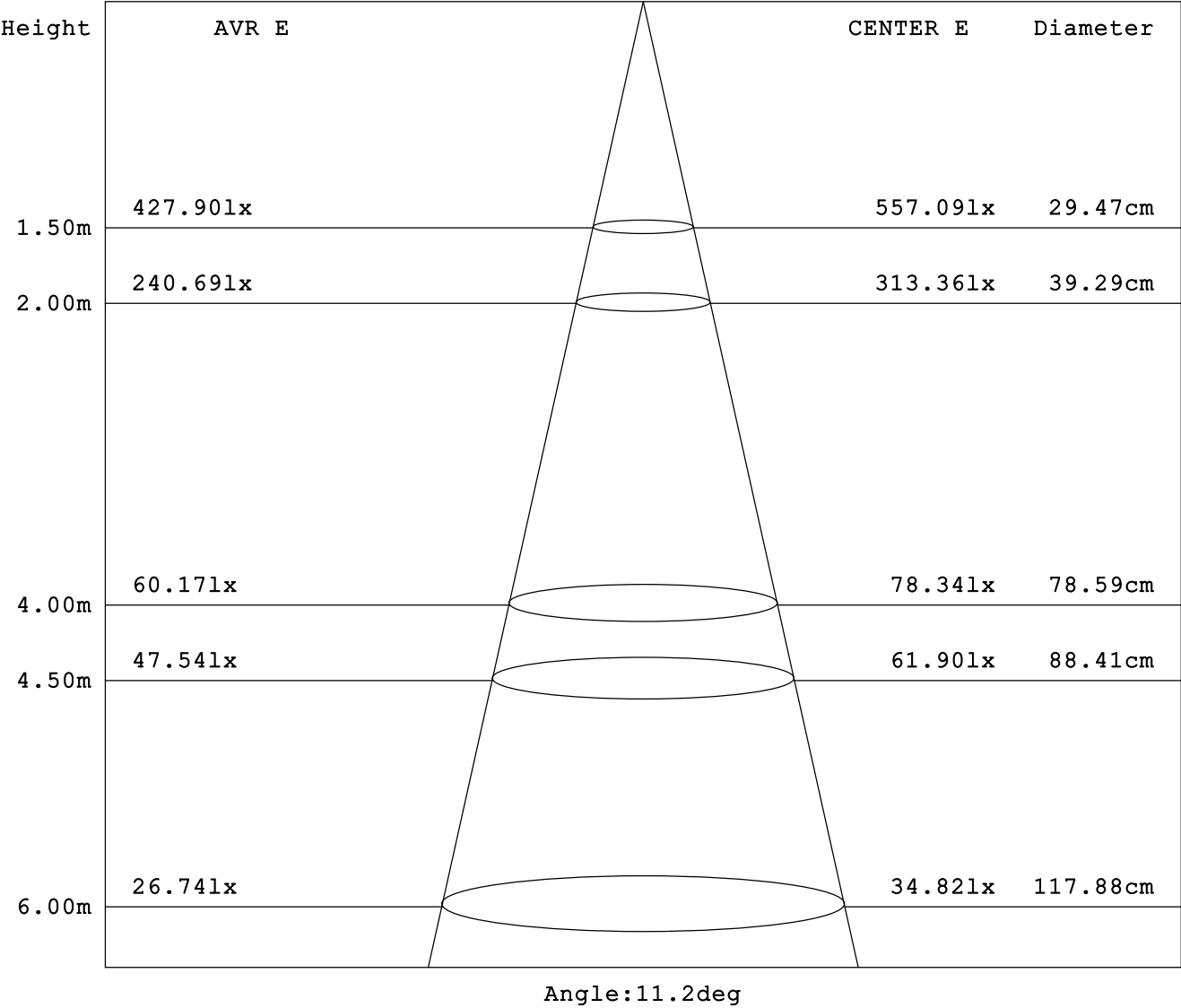
Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks:

AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:



Test System:HopooColor HPG1800	Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG	Humidity:65.0%
Operators:	Test Distance:8.300 m
Test Date:09-08-2026	Remarks:

ZONAL FLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:

γ	C0	C90	C180	C270					γ	Zone	total
10.0	353.0	255.2	353.0	255.2					0- 10	63.46	63.46
20.0	92.17	68.61	92.17	68.61					10- 20	45.30	108.7
30.0	34.10	24.31	34.10	24.31					20- 30	23.03	131.8
40.0	14.74	9.782	14.74	9.782					30- 40	12.24	144.0
50.0	7.302	4.684	7.302	4.684					40- 50	6.722	150.7
60.0	3.857	0	3.857	0					50- 60	3.665	154.4
70.0	1.377	0	1.377	0					60- 70	1.275	155.7
80.0	0	0	0	0					70- 80	0.308	156.0
90.0	0	0	0	0					80- 90	0	156.0
100.0									90-100		
110.0									100-110		
120.0									110-120		
130.0									120-130		
140.0									130-140		
150.0									140-150		
160.0									150-160		
170.0									160-170		
180.0									170-180		
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	

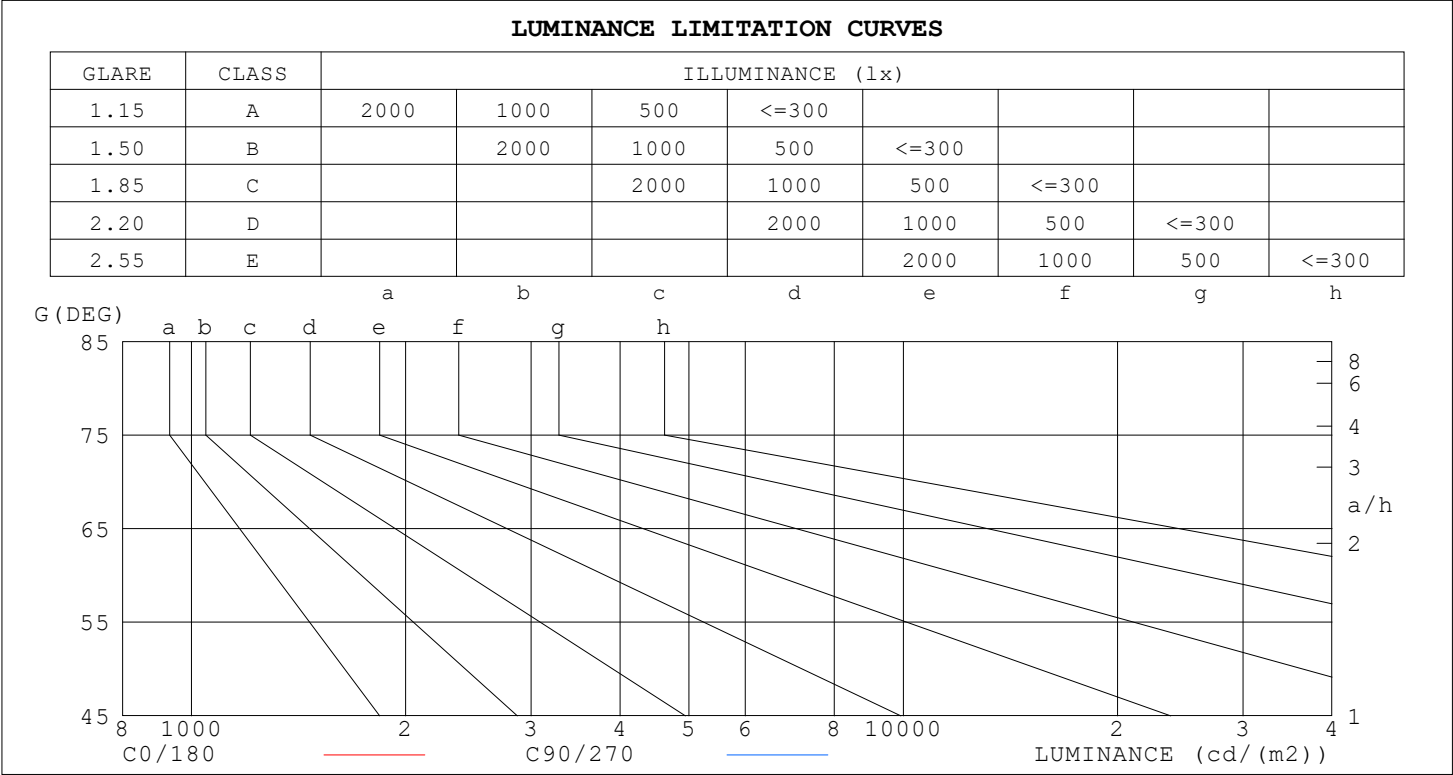
Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks:

LUMINANCE LIMITATION CURVES

Report number:

MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:



LUMINANCE cd/m2		
G (DEG)	C0/180	C90/270
85	0	0
80	0	0
75	19	0
70	40	0
65	60	0
60	77	0
55	92	56
50	114	73
45	143	94

Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

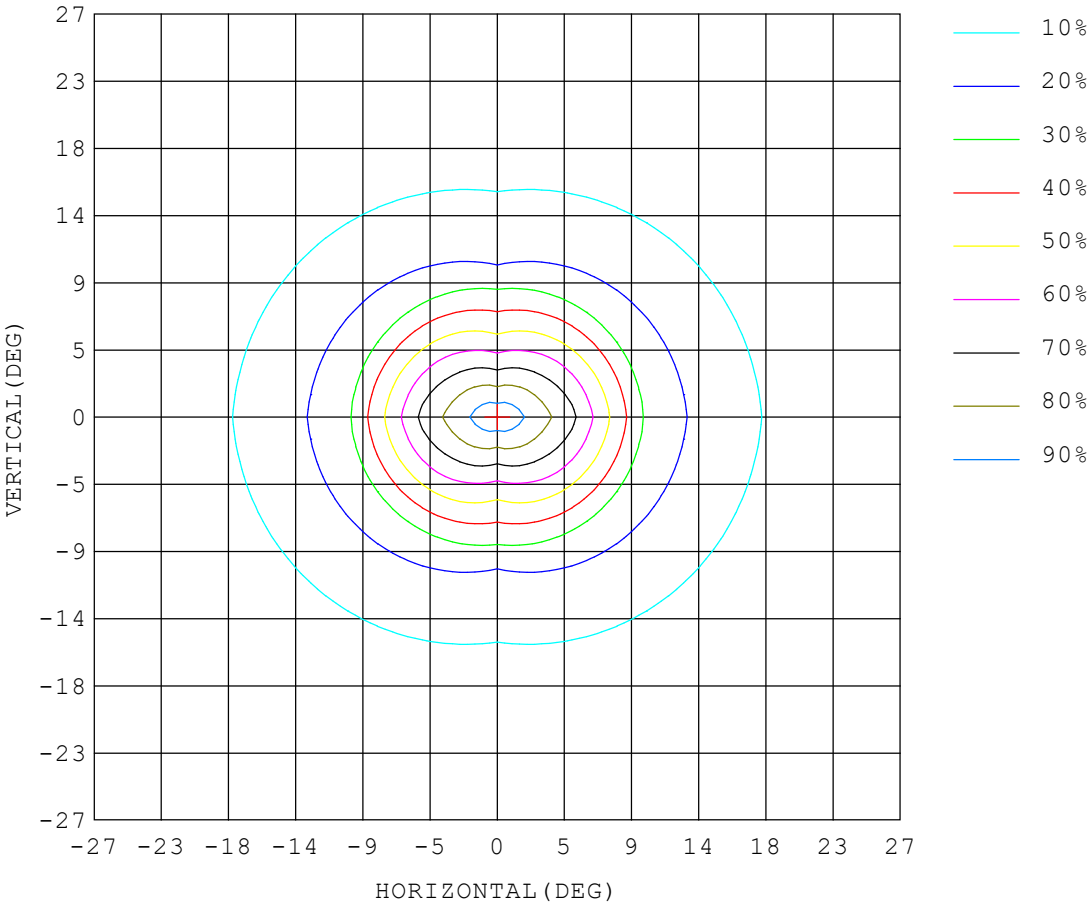
Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:

UNIT: cd

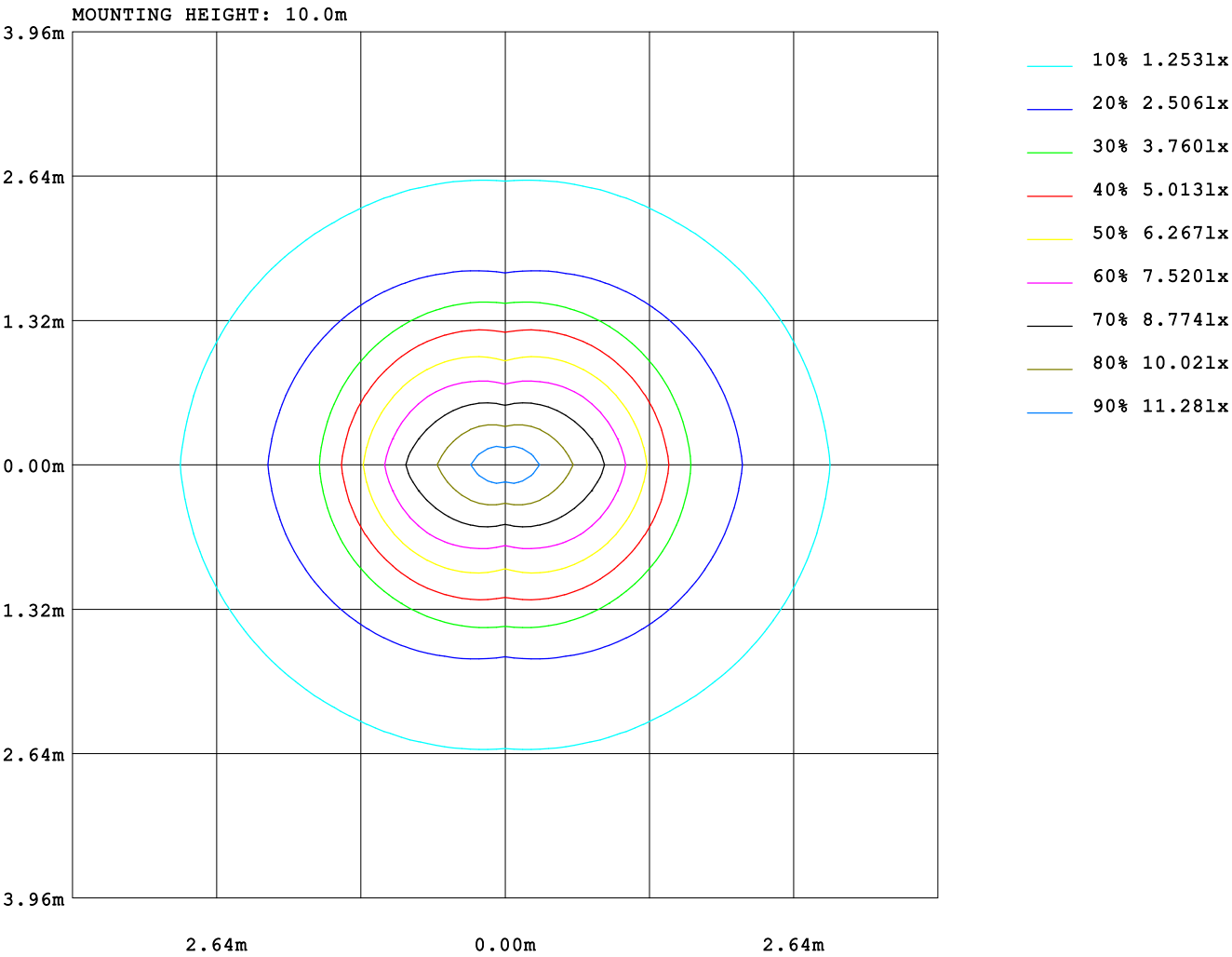


Test System:HopooColor HPG1800	Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG	Humidity:65.0%
Operators:	Test Distance:8.300 m
Test Date:09-08-2026	Remarks:

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:



Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

AREA LUMINOUS FLUX

Report number:

MANUFACTURER:																			
Address:																			
NAME:										TYPE:					WEIGHT:				
SPECIFICATION:										DIMENSION:					SERIAL No.:				

27	AREA FLUX DIAGRAM																		UNIT:lm			Φ t	Φ a
	0.05	0.06	0.06	0.07	0.09	0.10	0.10	0.11	0.11	0.11	0.11	0.10	0.10	0.09	0.07	0.06	0.06	0.05	1.47	0.00			
24	0.06	0.07	0.08	0.10	0.11	0.13	0.14	0.15	0.15	0.15	0.15	0.14	0.13	0.11	0.10	0.08	0.07	0.06	1.94	0.00			
21	0.07	0.08	0.10	0.12	0.15	0.17	0.19	0.20	0.21	0.21	0.20	0.19	0.17	0.15	0.12	0.10	0.08	0.07	2.56	0.00			
18	0.08	0.10	0.12	0.16	0.19	0.23	0.27	0.29	0.30	0.30	0.29	0.27	0.23	0.19	0.16	0.12	0.10	0.08	3.47	0.00			
15	0.09	0.12	0.15	0.19	0.25	0.31	0.37	0.43	0.46	0.46	0.43	0.37	0.31	0.25	0.19	0.15	0.12	0.09	4.74	2.52			
12	0.10	0.13	0.18	0.24	0.32	0.42	0.56	0.65	0.70	0.70	0.65	0.56	0.42	0.32	0.24	0.18	0.13	0.10	6.62	4.89			
9	0.11	0.15	0.21	0.29	0.40	0.59	0.79	1.10	1.28	1.28	1.10	0.79	0.59	0.40	0.29	0.21	0.15	0.11	9.88	8.41			
VERTICAL (DEG)	0.12	0.17	0.24	0.34	0.49	0.75	1.20	1.78	2.03	2.03	1.78	1.20	0.75	0.49	0.34	0.24	0.17	0.12	14.2	12.9			
	0.13	0.18	0.25	0.37	0.57	0.89	1.60	2.37	2.84	2.84	2.37	1.60	0.89	0.57	0.37	0.25	0.18	0.13	18.4	17.2			
	0.13	0.18	0.25	0.37	0.57	0.89	1.60	2.37	2.84	2.84	2.37	1.60	0.89	0.57	0.37	0.25	0.18	0.13	18.4	17.2			
	0.12	0.17	0.24	0.34	0.49	0.75	1.20	1.78	2.03	2.03	1.78	1.20	0.75	0.49	0.34	0.24	0.17	0.12	14.2	12.9			
-9	0.11	0.15	0.21	0.29	0.40	0.59	0.79	1.10	1.28	1.28	1.10	0.79	0.59	0.40	0.29	0.21	0.15	0.11	9.88	8.41			
-12	0.10	0.13	0.18	0.24	0.32	0.42	0.56	0.65	0.70	0.70	0.65	0.56	0.42	0.32	0.24	0.18	0.13	0.10	6.62	4.89			
-15	0.09	0.12	0.15	0.19	0.25	0.31	0.37	0.43	0.46	0.46	0.43	0.37	0.31	0.25	0.19	0.15	0.12	0.09	4.74	2.52			
-18	0.08	0.10	0.12	0.16	0.19	0.23	0.27	0.29	0.30	0.30	0.29	0.27	0.23	0.19	0.16	0.12	0.10	0.08	3.47	0.00			
-21	0.07	0.08	0.10	0.12	0.15	0.17	0.19	0.20	0.21	0.21	0.20	0.19	0.17	0.15	0.12	0.10	0.08	0.07	2.56	0.00			
-24	0.06	0.07	0.08	0.10	0.11	0.13	0.14	0.15	0.15	0.15	0.15	0.14	0.13	0.11	0.10	0.08	0.07	0.06	1.94	0.00			
-27	0.05	0.06	0.06	0.07	0.09	0.10	0.10	0.11	0.11	0.11	0.11	0.10	0.10	0.09	0.07	0.06	0.06	0.05	1.47	0.00			
-27 -24 -21 -18 -15 -12 -9 -6 HORIZONTAL (DEG) 6 9 12 15 18 21 24 27																							
Φ t	1.60	2.12	2.80	3.76	5.14	7.16	10.4	14.1	16.1	16.1	14.1	10.4	7.16	5.14	3.76	2.80	2.12	1.60	156				
Φ a	0.00	0.00	0.00	1.14	3.16	5.45	8.92	12.6	14.6	14.6	12.6	8.92	5.45	3.16	1.14	0.00	0.00	0.00		101			

Test System:HopooColor HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:09-08-2026

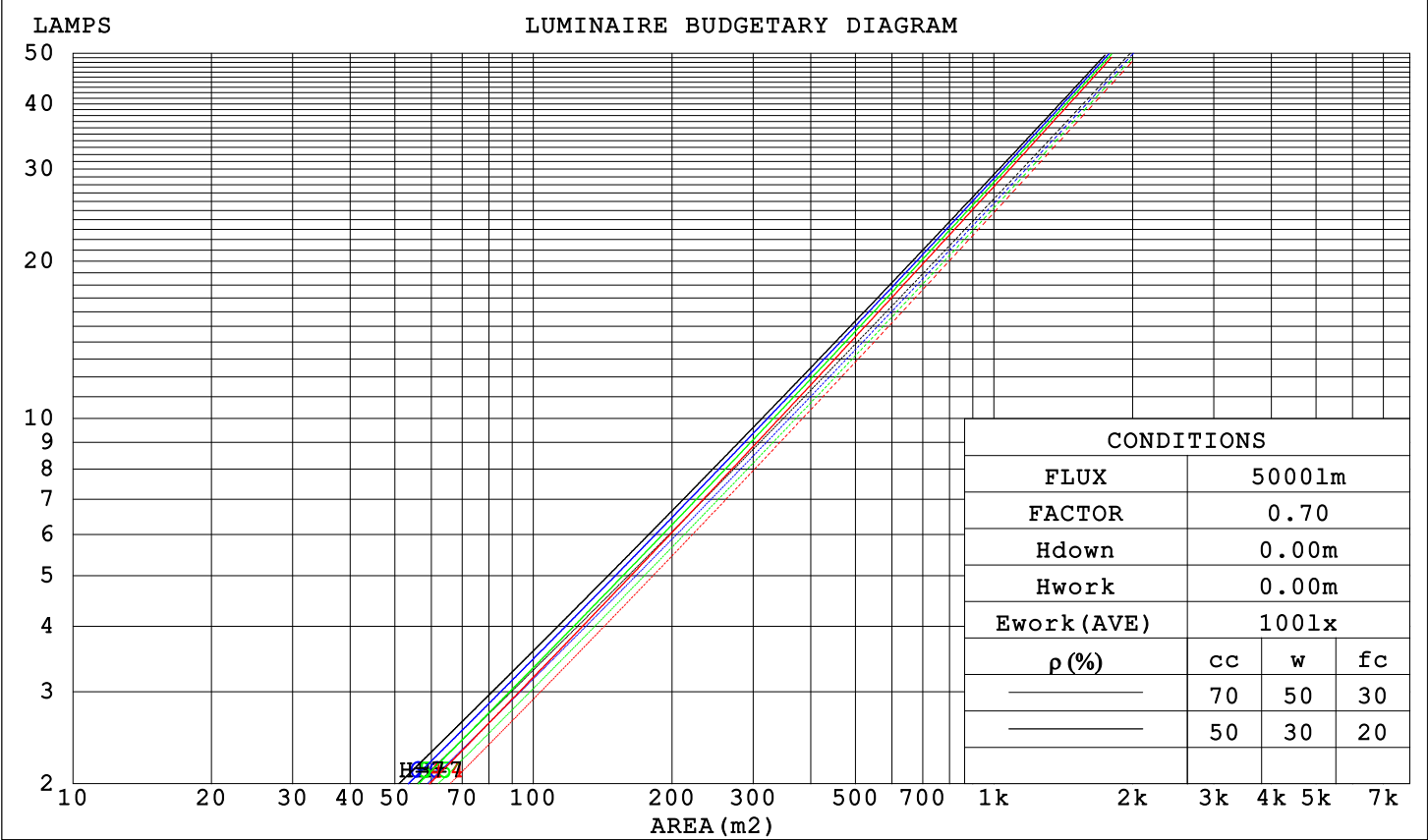
Test Set: 5.0deg/s C-Gamma (TYPE C)
 Humidity:65.0%
 Test Distance:8.300 m
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

MANUFACTURER:															
Address:															
NAME:								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION:				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			Coefficients of Utilization(CU)												
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.12	1.10	1.08	1.10	1.08	1.07	1.06	1.05	1.03	1.03	1.01	1.00	.99	.98	.98	.96
2.0	1.06	1.03	1.00	1.05	1.02	.99	1.02	.99	.97	.99	.97	.95	.96	.95	.93	.92
3.0	1.01	.97	.94	.00	.96	.93	.97	.94	.92	.95	.93	.91	.93	.91	.89	.88
4.0	.97	.92	.89	.96	.92	.89	.94	.90	.88	.92	.89	.87	.90	.88	.86	.84
5.0	.93	.88	.85	.92	.88	.85	.90	.87	.84	.89	.86	.83	.87	.85	.83	.81
6.0	.89	.85	.81	.89	.84	.81	.87	.83	.81	.86	.83	.80	.85	.82	.80	.79
7.0	.86	.82	.78	.86	.81	.78	.84	.81	.78	.83	.80	.77	.82	.79	.77	.76
8.0	.83	.79	.76	.83	.79	.76	.82	.78	.75	.81	.78	.75	.80	.77	.75	.74
9.0	.81	.76	.73	.80	.76	.73	.80	.76	.73	.79	.75	.73	.78	.75	.73	.72
10.0	.78	.74	.71	.78	.74	.71	.77	.74	.71	.77	.73	.71	.76	.73	.71	.70



Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

Report number:

MANUFACTURER:															
Address:															
NAME:								TYPE:				WEIGHT:			
SPECIFICATION:								DIMENSION:				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
pf _c	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.147	.084	.027	.141	.080	.025	.128	.074	.023	.117	.067	.022	.106	.062	.020	
2.0	.138	.076	.023	.133	.073	.023	.123	.068	.021	.113	.063	.020	.104	.059	.019	
3.0	.130	.069	.021	.125	.067	.020	.116	.063	.019	.108	.059	.018	.101	.056	.017	
4.0	.122	.063	.019	.118	.062	.018	.110	.059	.017	.104	.056	.017	.097	.053	.016	
5.0	.114	.058	.017	.111	.057	.017	.105	.055	.016	.099	.052	.016	.094	.050	.015	
6.0	.108	.054	.015	.105	.053	.015	.100	.051	.015	.095	.049	.014	.090	.047	.014	
7.0	.102	.051	.014	.100	.050	.014	.095	.048	.014	.091	.046	.014	.086	.045	.013	
8.0	.097	.047	.013	.095	.047	.013	.091	.045	.013	.087	.044	.013	.083	.043	.012	
9.0	.092	.045	.012	.090	.044	.012	.087	.043	.012	.083	.042	.012	.080	.041	.012	
10.0	.088	.042	.012	.086	.042	.012	.083	.041	.011	.080	.040	.011	.077	.039	.011	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pf _c	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.117	.130	.114	.101	.089	.079	.070	.051	.046	.041	.016	.015	.013	
3.0	.137	.113	.094	.118	.098	.082	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.125	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.115	.086	.064	.099	.074	.056	.068	.052	.040	.039	.031	.023	.013	.010	.008	
6.0	.106	.076	.054	.092	.066	.047	.063	.046	.033	.037	.027	.020	.012	.009	.007	
7.0	.099	.068	.046	.085	.059	.040	.059	.041	.029	.034	.024	.017	.011	.008	.006	
8.0	.092	.061	.040	.080	.053	.035	.055	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.087	.056	.035	.075	.048	.030	.052	.034	.022	.030	.020	.013	.010	.007	.004	
10.0	.082	.051	.031	.070	.044	.027	.049	.031	.019	.028	.018	.011	.009	.006	.004	

Test System:HopooColor HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:09-08-2026

Test Set: 5.0deg/s C-Gamma (TYPE C)
 Humidity:65.0%
 Test Distance:8.300 m
 Remarks:

Uncorrected UGR Table

Report number:

MANUFACTURER:										
Address:										
NAME:					TYPE:			WEIGHT:		
SPECIFICATION:					DIMENSION:			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	-0.8	-0.1	-0.6	0.0	0.2	-3.1	-2.4	-2.9	-2.3	-2.1
3H	-0.6	0.1	-0.3	0.3	0.5	-3.3	-2.6	-3.0	-2.4	-2.2
4H	-0.6	0.1	-0.3	0.3	0.5	-3.3	-2.7	-3.1	-2.5	-2.3
6H	-0.7	-0.1	-0.4	0.2	0.4	-3.4	-2.8	-3.1	-2.6	-2.3
8H	-0.7	-0.1	-0.4	0.1	0.4	-3.5	-2.9	-3.2	-2.6	-2.4
12H	-0.8	-0.2	-0.4	0.1	0.3	-3.5	-3.0	-3.2	-2.7	-2.4
4H 2H	-0.9	-0.3	-0.6	-0.1	0.2	-3.0	-2.4	-2.8	-2.2	-2.0
3H	-0.6	-0.0	-0.3	0.2	0.5	-3.2	-2.6	-2.8	-2.3	-2.1
4H	-0.6	-0.1	-0.3	0.2	0.5	-3.2	-2.7	-2.9	-2.4	-2.1
6H	-0.7	-0.3	-0.4	0.1	0.4	-3.3	-2.9	-3.0	-2.6	-2.2
8H	-0.8	-0.4	-0.4	-0.0	0.3	-3.4	-3.0	-3.0	-2.6	-2.3
12H	-0.8	-0.5	-0.4	-0.1	0.3	-3.5	-3.1	-3.0	-2.7	-2.3
8H 4H	-0.8	-0.4	-0.4	-0.0	0.4	-3.4	-2.9	-3.0	-2.6	-2.2
6H	-0.9	-0.5	-0.5	-0.1	0.3	-3.5	-3.1	-3.0	-2.7	-2.3
8H	-0.9	-0.6	-0.5	-0.2	0.2	-3.5	-3.2	-3.1	-2.8	-2.4
12H	-1.0	-0.7	-0.5	-0.3	0.2	-3.6	-3.3	-3.1	-2.9	-2.4
12H 4H	-0.8	-0.4	-0.4	-0.1	0.3	-3.4	-3.0	-3.0	-2.7	-2.3
6H	-0.9	-0.6	-0.5	-0.2	0.2	-3.5	-3.2	-3.1	-2.8	-2.4
8H	-1.0	-0.7	-0.5	-0.3	0.2	-3.6	-3.3	-3.1	-2.9	-2.4
Variations with the observer position at spacings:										
S = 1.0H	+ 1.5 / - 1.7					+ 2.3 / - 6.1				
1.5H	+ 2.0 / - 2.8					+ 1.3 / - 5.6				
2.0H	+ 2.8 / - 3.0					+ 3.5 / - 9.3				

CIE Pub.117 Corrected 156.0 lm Total Lamp Luminous Flux.(8log(F/F0) = -6.5)

Test System:HopooColor HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:09-08-2026

Test Set: 5.0deg/s C-Gamma (TYPE C)
 Humidity:65.0%
 Test Distance:8.300 m
 Remarks:

UTILIZATION FACTORS TABLE

Report number:

MANUFACTURER:										
Address:										
NAME:					TYPE:			WEIGHT:		
SPECIFICATION:					DIMENSION:			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) $k(RI) \times RCR = 5$									
$k = 0.60$	87	80	76	86	80	76	85	80	76	72
0.80	94	88	84	94	88	84	92	87	84	80
1.00	99	93	89	98	93	89	96	93	89	85
1.25	103	98	94	102	97	94	100	96	93	89
1.50	106	101	97	104	100	97	102	99	96	91
2.00	108	104	101	107	103	100	104	101	99	93
2.50	110	106	103	108	105	102	105	103	100	95
3.00	112	108	106	110	107	104	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	98
5.00	115	113	111	113	111	109	109	107	106	99
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004					Suspended			SHRNOM = 1.25		

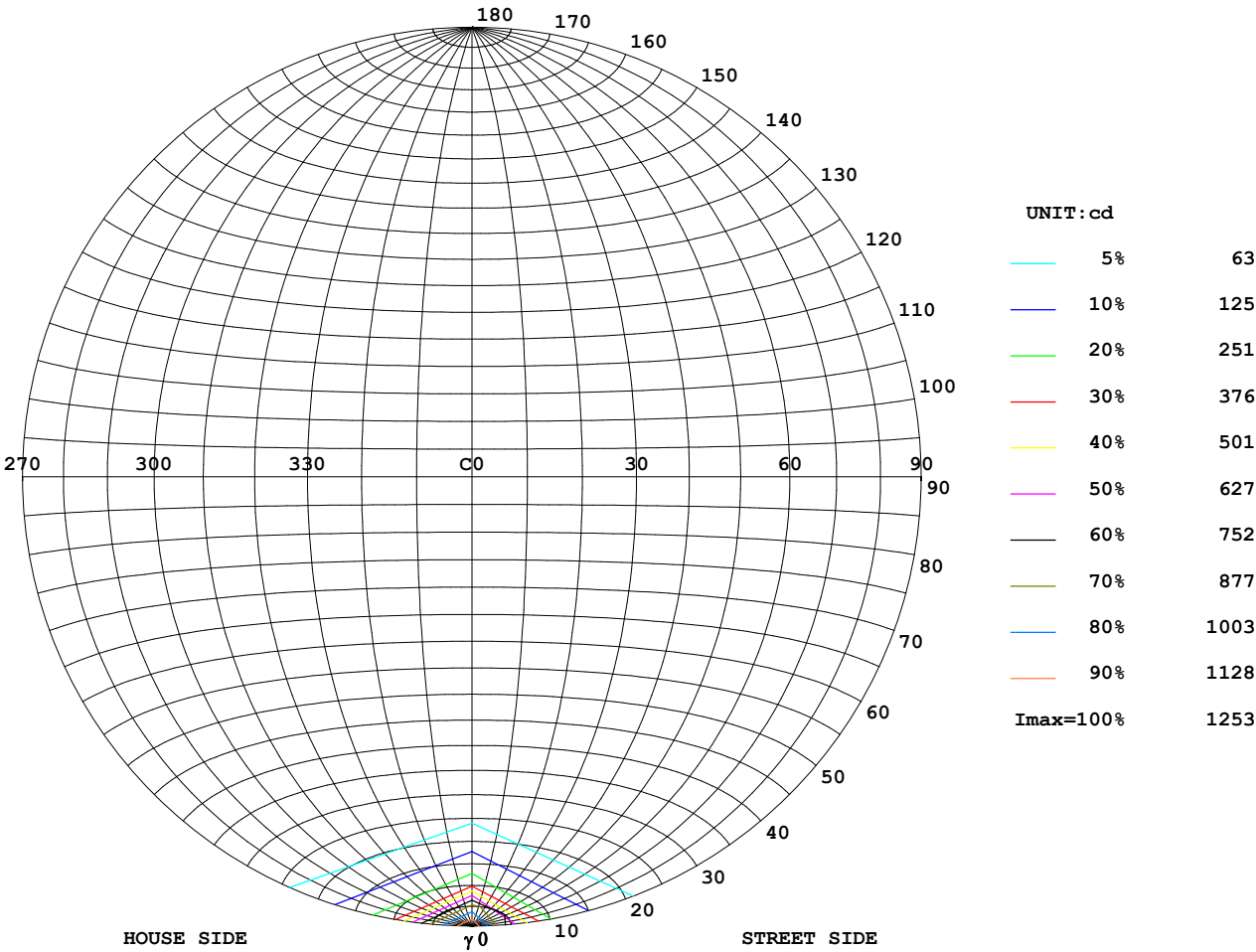
Test System: HopooColor HPG1800
 Temperature: 25.3DEG
 Operators:
 Test Date: 09-08-2026

Test Set: 5.0deg/s C-Gamma (TYPE C)
 Humidity: 65.0%
 Test Distance: 8.300 m
 Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:



Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

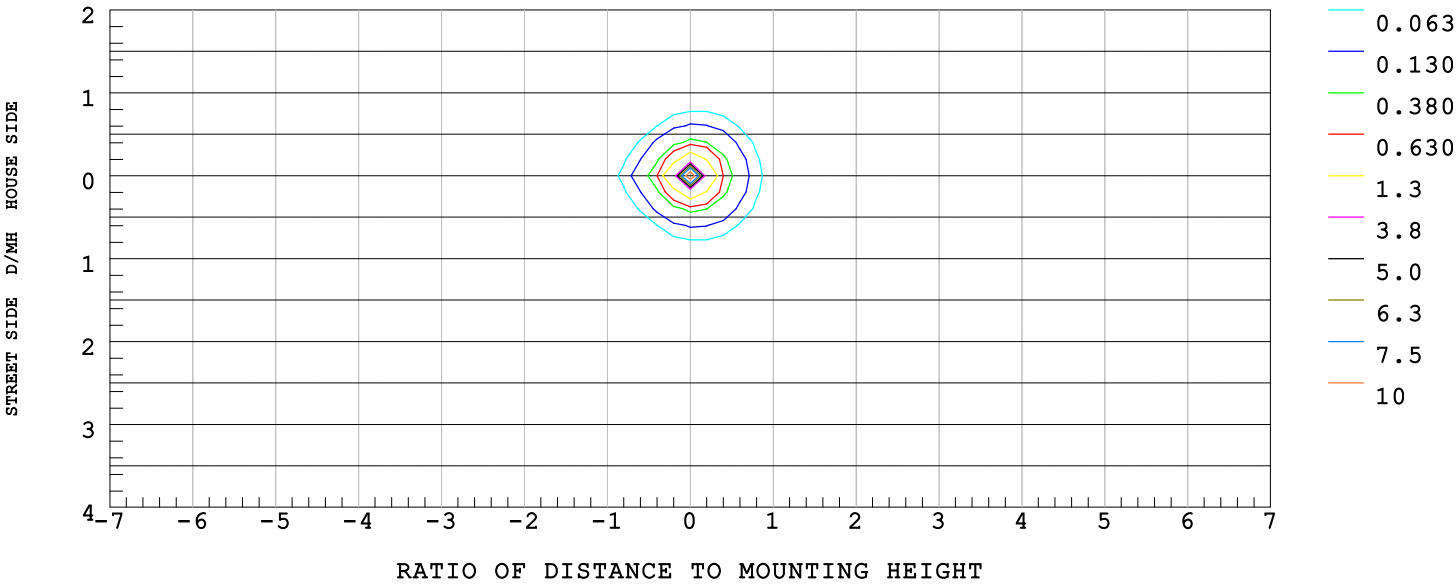
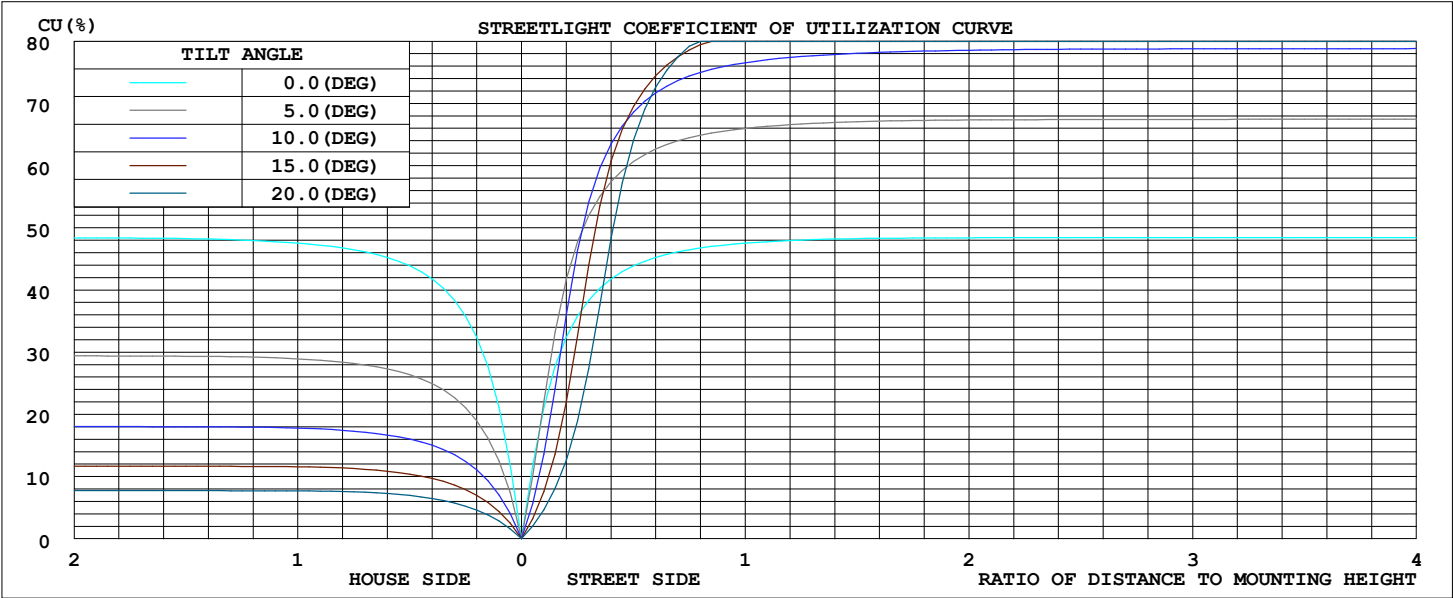
Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks:

ISOLUX DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:

ILLUMINANCE AT MH=10 m,Enadir = 12.53 lx

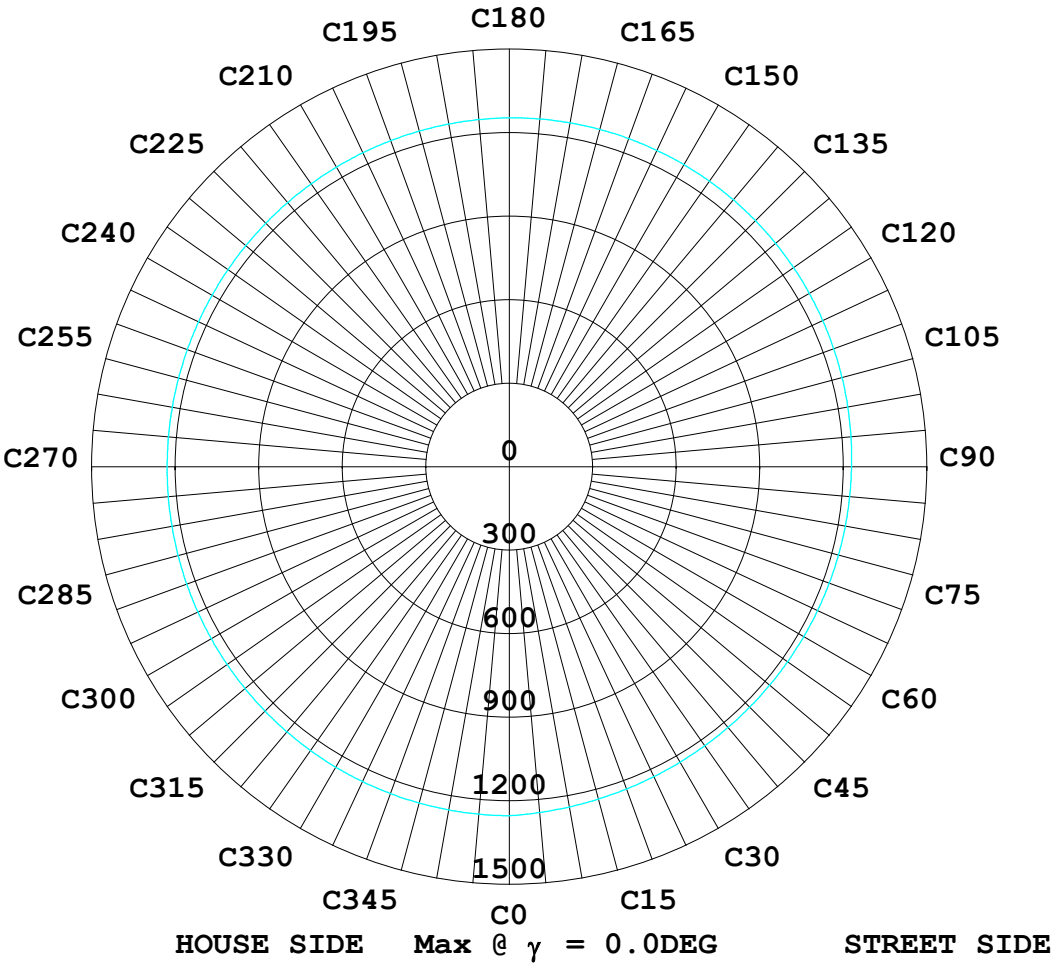


Test System:HopooColor HPG1800 Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:8.300 m
Test Date:09-08-2026 Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:



Test System:HopooColor HPG1800	Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG	Humidity:65.0%
Operators:	Test Distance:8.300 m
Test Date:09-08-2026	Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Report number:

MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:

UNIT: cd

C (DEG)				
γ (DEG)	0	90	180	270
0.0	1253	1229	1253	1229
5.0	910	671	910	671
10.0	353	255	353	255
15.0	165	126	165	126
20.0	92.1	68.6	92.1	68.6
25.0	54.3	39.8	54.3	39.8
30.0	34.1	24.3	34.1	24.3
35.0	22.3	15.1	22.3	15.1
40.0	14.7	9.78	14.7	9.78
45.0	10.1	6.61	10.1	6.61
50.0	7.30	4.68	7.30	4.68
55.0	5.30	3.23	5.30	3.23
60.0	3.85	0.00	3.85	0.00
65.0	2.54	0.00	2.54	0.00
70.0	1.37	0.00	1.37	0.00
75.0	0.48	0.00	0.48	0.00
80.0	0.00	0.00	0.00	0.00
85.0	0.00	0.00	0.00	0.00
90.0	0.00	0.00	0.00	0.00

Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks: