

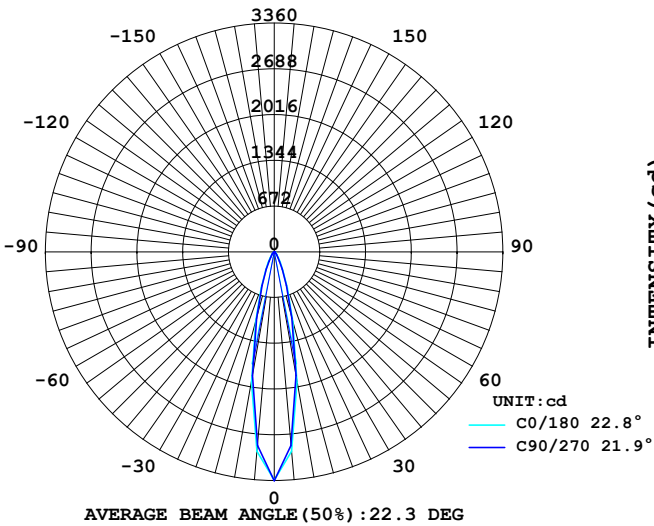
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

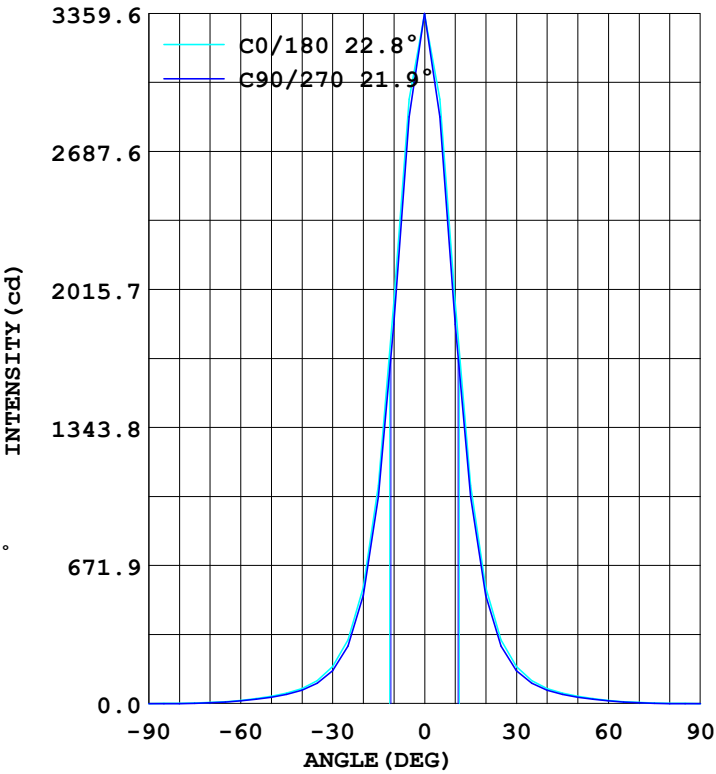
MANUFACTURER:		
Address:		
NAME:	TYPE:	WEIGHT:
SPECIFICATION:	DIMENSION:	SERIAL No.:

DATA OF LAMP		Imax(cd)	3360	S/MH (C0/180)	0.39
MODEL		EFFICIENCY (%)	100.0	S/MH (C90/270)	0.37
NOMINAL POWER(W)	10	TOTAL FLUX(lm)	835.10	Voltage(V)	230.3
RATED VOLTAGE (V)	230	EFFICIENCY (lm/W)	82.9	Current(A)	0.080
NOMINAL FLUX(lm)	835.1	η up (%)	0.0	Power(W)	10.07
LAMPS QUANTITY	1	η down (%)	100.0	Power Factor (PF)	0.544
TEST VOLTAGE (V)	230.3	Effective Flux(lm)	638.8	EEI	0.000 (E)

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



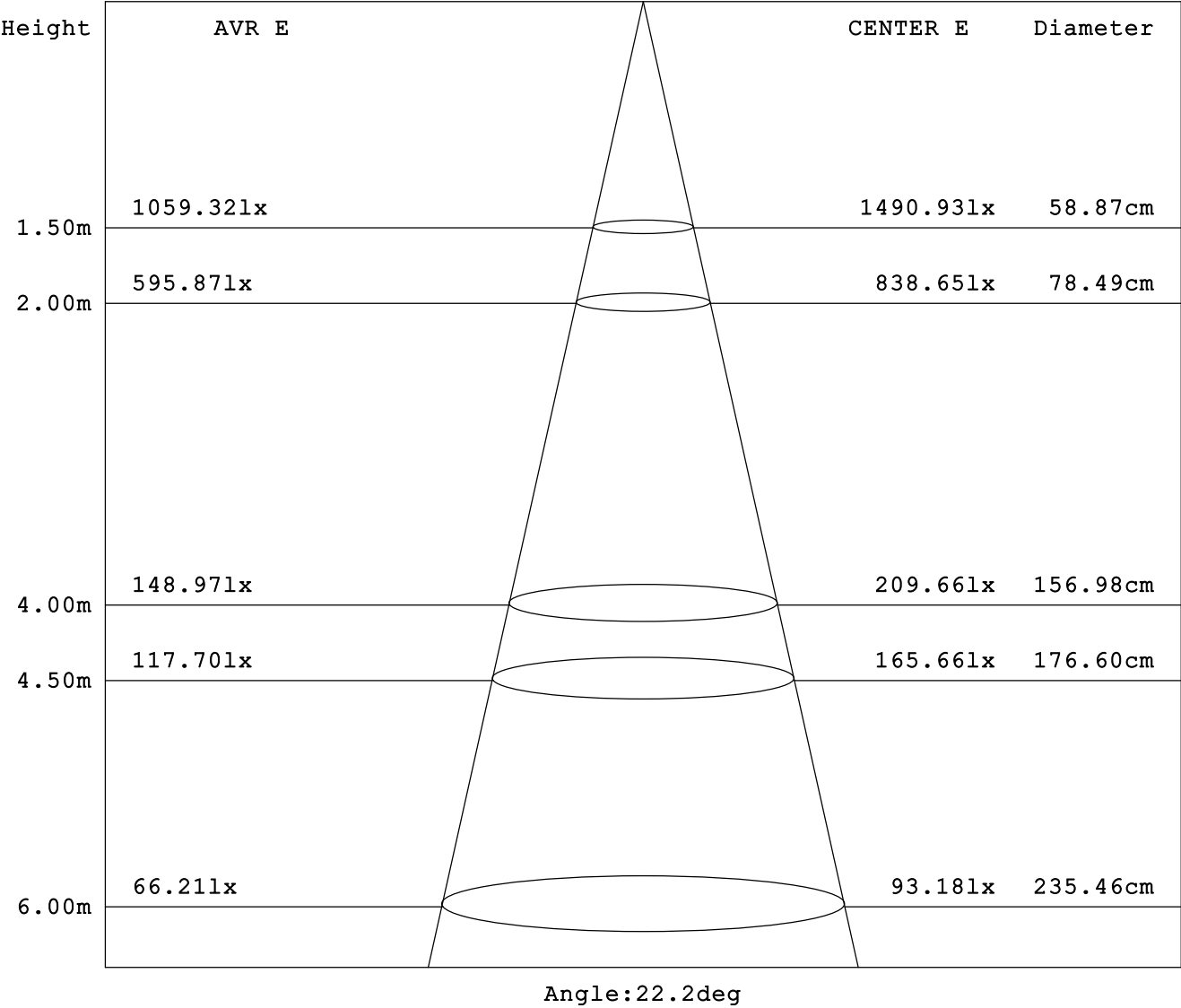
Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

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:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

Report number:

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

γ	C0	C90	C180	C270					γ	Zone	total
10.0	1948	1846	1948	1846					0- 10	246.3	246.3
20.0	566.0	526.9	566.0	526.9					10- 20	304.2	550.6
30.0	179.4	159.6	179.4	159.6					20- 30	146.9	697.5
40.0	72.67	64.61	72.67	64.61					30- 40	69.24	766.8
50.0	34.51	30.38	34.51	30.38					40- 50	37.50	804.3
60.0	15.29	12.88	15.29	12.88					50- 60	20.12	824.4
70.0	5.235	3.306	5.235	3.306					60- 70	8.421	832.8
80.0	0.896	0	0.896	0					70- 80	2.074	834.9
90.0	0	0	0	0					80- 90	0.140	835.1
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	

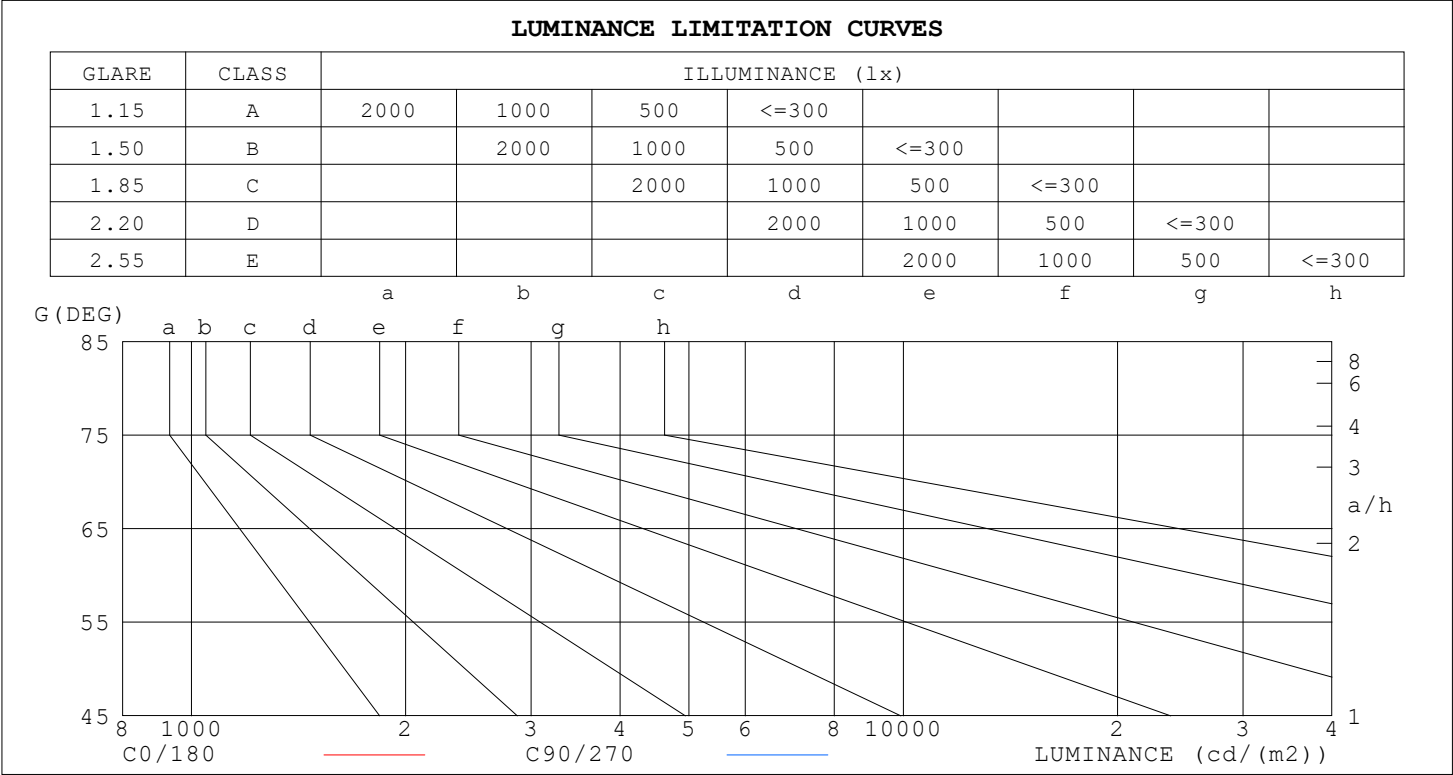
Test System:HopooColor HPG1800
 Temperature:25.3DEG
 Operators:
 Test Date:09-08-2026

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	8	0
80	52	0
75	101	21
70	153	97
65	218	155
60	306	258
55	408	354
50	537	473
45	705	626

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

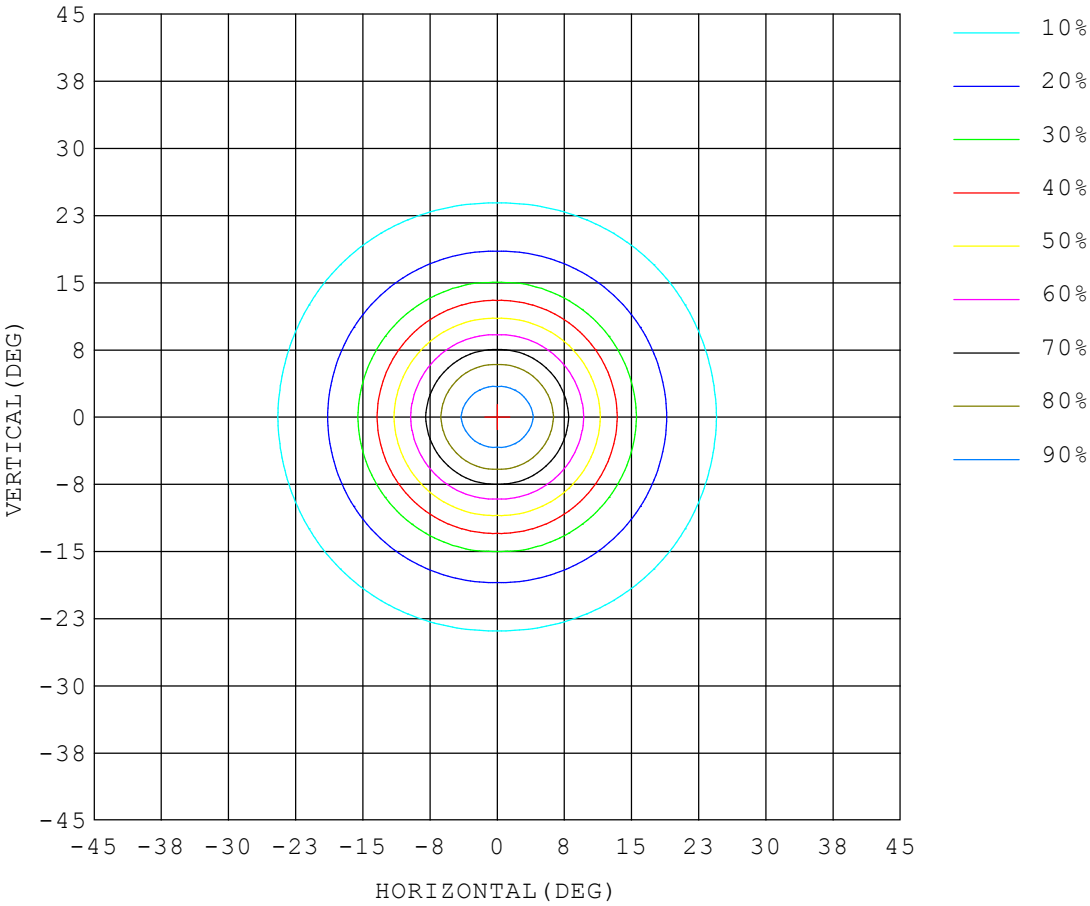
Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks:

ISOCANDELA DIAGRAM

Report number:

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

UNIT: cd



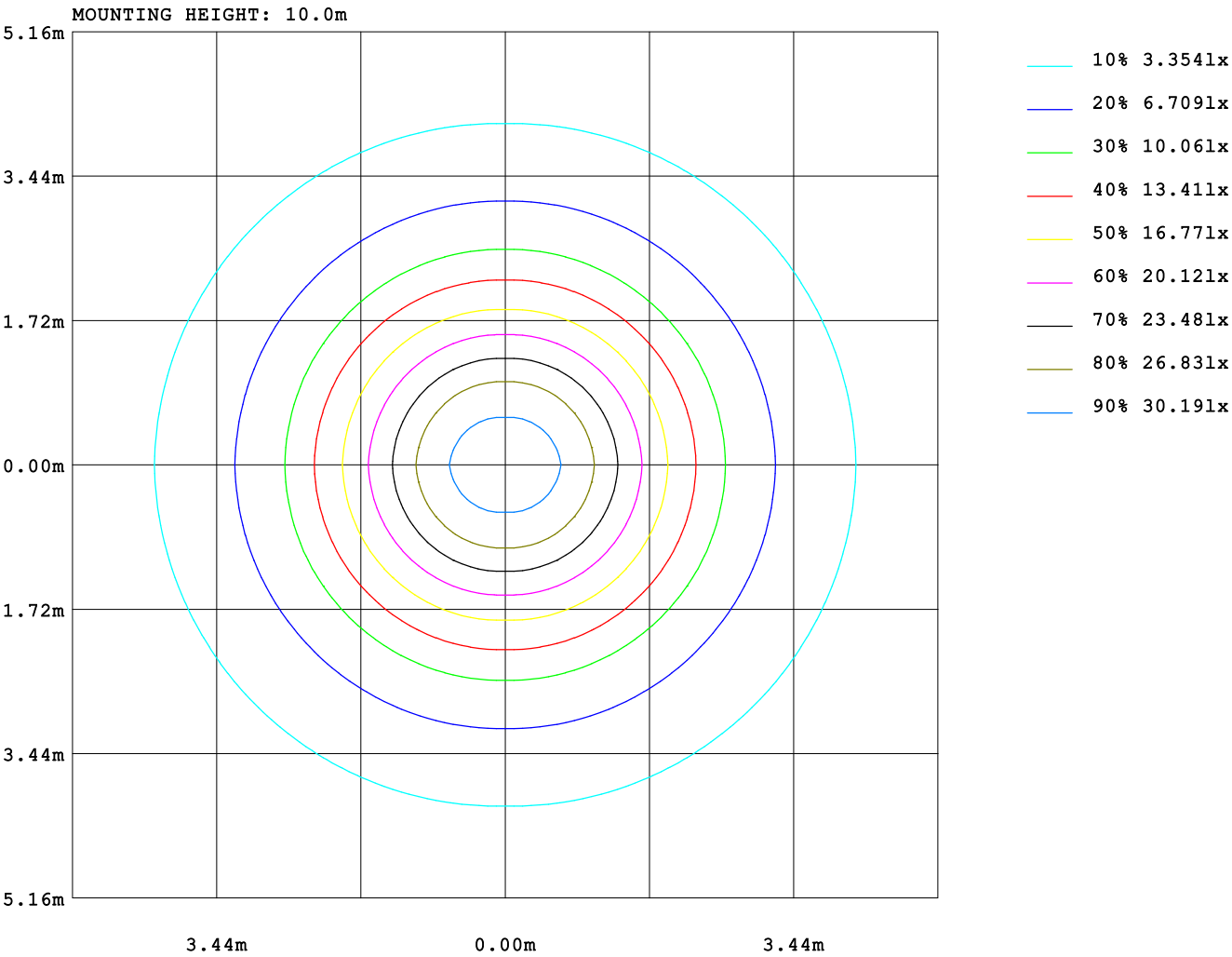
Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

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.:



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:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

AREA LUMINOUS FLUX

Report number:

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

VERTICAL (DEG)	AREA FLUX DIAGRAM																		UNIT:lm			Φ t	Φ a				
	45	40	35	30	25	20	15	10	5	0	5	10	15	20	25	30	35	40	45								
45	0.11	0.14	0.19	0.23	0.28	0.33	0.37	0.40	0.41	0.41	0.40	0.37	0.33	0.28	0.23	0.19	0.14	0.11	4.94	0.00							
	0.14	0.19	0.25	0.31	0.39	0.47	0.54	0.59	0.62	0.62	0.59	0.54	0.47	0.39	0.31	0.25	0.19	0.14	6.96	0.00							
	0.17	0.23	0.32	0.42	0.54	0.67	0.81	0.92	0.98	0.98	0.92	0.81	0.67	0.54	0.42	0.32	0.23	0.17	10.1	0.00							
	0.20	0.29	0.40	0.56	0.76	1.00	1.27	1.52	1.65	1.65	1.52	1.27	1.00	0.76	0.56	0.40	0.29	0.20	15.3	0.00							
	0.24	0.35	0.51	0.74	1.07	1.54	2.10	2.67	3.02	3.02	2.67	2.10	1.54	1.07	0.74	0.51	0.35	0.24	24.5	9.42							
	0.27	0.41	0.62	0.97	1.52	2.36	3.53	4.83	5.70	5.70	4.83	3.53	2.36	1.52	0.97	0.62	0.41	0.27	40.4	30.4							
	0.30	0.47	0.75	1.22	2.06	3.51	5.77	8.47	10.5	10.5	8.47	5.77	3.51	2.06	1.22	0.75	0.47	0.30	66.1	57.6							
	0.33	0.52	0.85	1.46	2.62	4.80	8.49	13.4	17.2	17.2	13.4	8.49	4.80	2.62	1.46	0.85	0.52	0.33	99.6	91.9							
	0.34	0.55	0.92	1.61	3.00	5.72	10.7	17.5	22.7	22.7	17.5	10.7	5.72	3.00	1.61	0.92	0.55	0.34	126	119							
	0.34	0.55	0.92	1.61	3.00	5.72	10.7	17.5	22.7	22.7	17.5	10.7	5.72	3.00	1.61	0.92	0.55	0.34	126	119							
	0.33	0.52	0.85	1.46	2.62	4.80	8.49	13.4	17.2	17.2	13.4	8.49	4.80	2.62	1.46	0.85	0.52	0.33	99.6	91.9							
	0.30	0.47	0.75	1.22	2.06	3.51	5.77	8.47	10.5	10.5	8.47	5.77	3.51	2.06	1.22	0.75	0.47	0.30	66.1	57.6							
	0.27	0.41	0.62	0.97	1.52	2.36	3.53	4.83	5.70	5.70	4.83	3.53	2.36	1.52	0.97	0.62	0.41	0.27	40.4	30.4							
	0.24	0.35	0.51	0.74	1.07	1.54	2.10	2.67	3.02	3.02	2.67	2.10	1.54	1.07	0.74	0.51	0.35	0.24	24.5	9.42							
	0.20	0.29	0.40	0.56	0.76	1.00	1.27	1.52	1.65	1.65	1.52	1.27	1.00	0.76	0.56	0.40	0.29	0.20	15.3	0.00							
	0.17	0.23	0.32	0.42	0.54	0.67	0.81	0.92	0.98	0.98	0.92	0.81	0.67	0.54	0.42	0.32	0.23	0.17	10.1	0.00							
	0.14	0.19	0.25	0.31	0.39	0.47	0.54	0.59	0.62	0.62	0.59	0.54	0.47	0.39	0.31	0.25	0.19	0.14	6.96	0.00							
	0.11	0.14	0.19	0.23	0.28	0.33	0.37	0.40	0.41	0.41	0.40	0.37	0.33	0.28	0.23	0.19	0.14	0.11	4.94	0.00							
	-45	-40	-35	-30	-25	-20	-15	-10	HORIZONTAL (DEG)											10	15	20	25	30	35	40	45
Φ t	4.18	6.29	9.60	15.0	24.5	40.8	67.2	101	126	126	101	67.2	40.8	24.5	15.0	9.60	6.29	4.18	835								
Φ a	0.00	0.00	0.00	0.00	10.0	30.3	57.9	92.0	118	118	92.0	57.9	30.3	10.0	0.00	0.00	0.00	0.00		639							

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

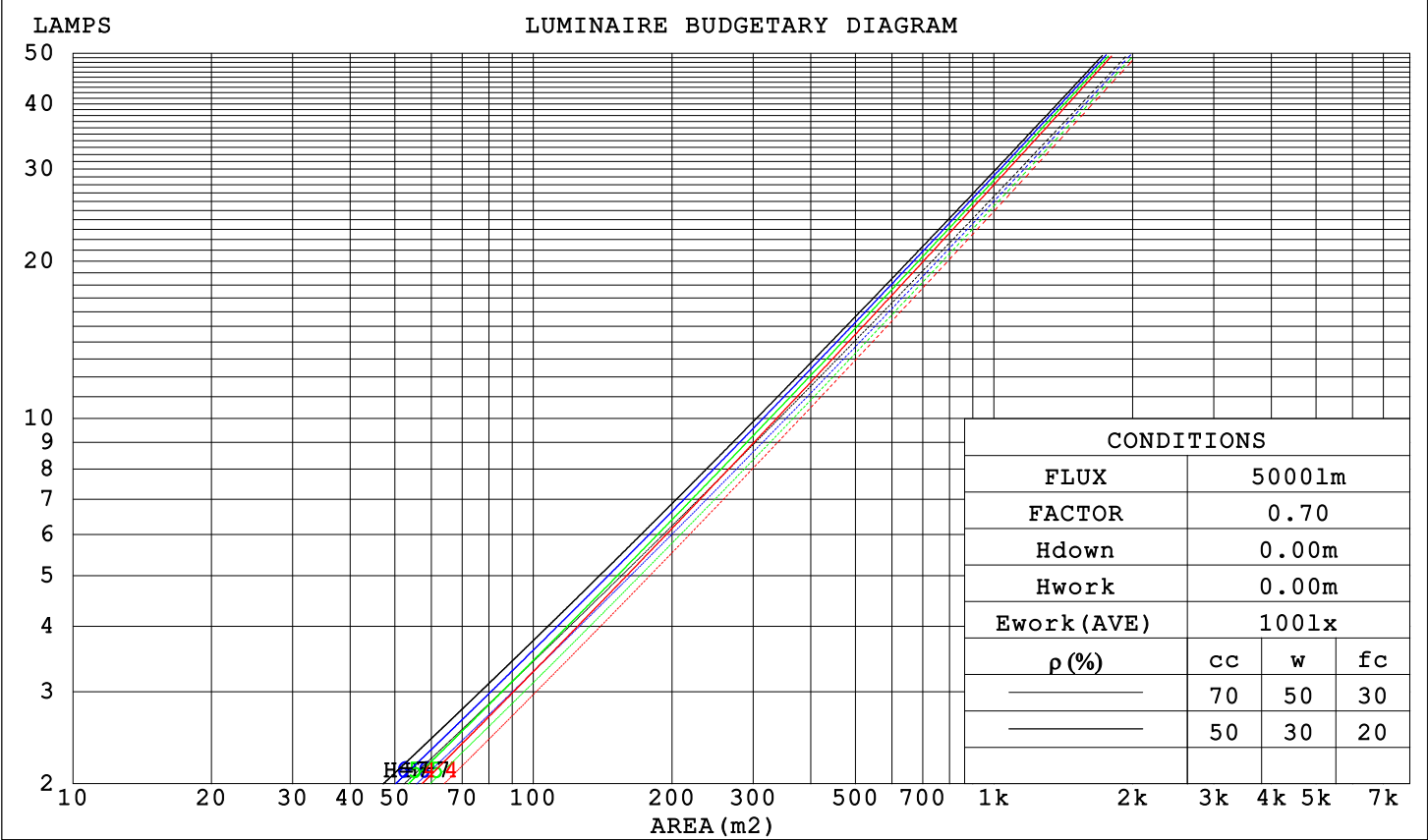
Test Set: 5.0deg/s C-Gamma (TYPE C)
 Humidity:65.0%
 Test Distance:8.300 m
 Remarks:

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	1.06	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.05	1.02	.99	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.93	.92	.90
3.0	.00	.96	.92	.99	.95	.92	.96	.93	.90	.94	.91	.89	.91	.89	.87	.86
4.0	.95	.90	.87	.94	.90	.86	.92	.88	.85	.90	.87	.84	.88	.86	.83	.82
5.0	.91	.86	.82	.90	.85	.82	.88	.84	.81	.86	.83	.80	.85	.82	.80	.78
6.0	.87	.82	.78	.86	.81	.78	.85	.80	.77	.83	.80	.77	.82	.79	.76	.75
7.0	.83	.78	.75	.83	.78	.75	.81	.77	.74	.80	.77	.74	.79	.76	.74	.72
8.0	.80	.75	.72	.79	.75	.72	.78	.74	.71	.78	.74	.71	.77	.73	.71	.70
9.0	.77	.72	.69	.77	.72	.69	.76	.72	.69	.75	.71	.69	.74	.71	.68	.67
10.0	.74	.70	.67	.74	.70	.67	.73	.69	.66	.73	.69	.66	.72	.69	.66	.65



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
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.156	.089	.028	.149	.085	.027	.137	.079	.025	.125	.072	.023	.115	.067	.021	
2.0	.147	.081	.025	.142	.078	.024	.131	.073	.023	.122	.068	.021	.113	.064	.020	
3.0	.138	.074	.022	.134	.072	.022	.125	.068	.021	.117	.064	.020	.109	.061	.019	
4.0	.130	.068	.020	.126	.066	.020	.119	.063	.019	.112	.060	.018	.106	.057	.017	
5.0	.123	.063	.018	.120	.061	.018	.113	.059	.017	.107	.057	.017	.102	.054	.016	
6.0	.116	.058	.017	.113	.057	.016	.108	.055	.016	.103	.053	.016	.098	.052	.015	
7.0	.110	.055	.015	.108	.054	.015	.103	.052	.015	.098	.050	.015	.094	.049	.014	
8.0	.105	.051	.014	.103	.051	.014	.099	.049	.014	.094	.048	.014	.091	.047	.014	
9.0	.100	.048	.014	.098	.048	.013	.094	.047	.013	.091	.046	.013	.087	.044	.013	
10.0	.096	.046	.013	.094	.045	.013	.091	.044	.012	.087	.043	.012	.084	.042	.012	

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.170	.157	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.119	.098	.081	.082	.068	.056	.047	.040	.033	.015	.013	.011	
4.0	.128	.098	.076	.109	.085	.066	.075	.059	.047	.044	.035	.028	.014	.011	.009	
5.0	.118	.086	.063	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.109	.077	.053	.094	.066	.046	.065	.046	.033	.038	.027	.019	.012	.009	.006	
7.0	.102	.069	.045	.088	.060	.039	.061	.042	.028	.035	.025	.017	.011	.008	.006	
8.0	.096	.062	.039	.082	.054	.034	.057	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.090	.057	.034	.078	.049	.030	.054	.035	.021	.031	.020	.013	.010	.007	.004	
10.0	.085	.052	.030	.073	.045	.026	.051	.032	.018	.030	.019	.011	.010	.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	4.4	5.2	4.6	5.3	5.5	3.9	4.6	4.1	4.8	4.9
3H	4.5	5.3	4.8	5.5	5.6	3.9	4.6	4.1	4.8	5.0
4H	4.5	5.2	4.8	5.4	5.6	3.8	4.5	4.1	4.7	4.9
6H	4.5	5.1	4.8	5.3	5.6	3.7	4.4	4.0	4.6	4.8
8H	4.4	5.0	4.7	5.3	5.5	3.7	4.3	4.0	4.5	4.8
12H	4.4	5.0	4.7	5.2	5.5	3.6	4.2	3.9	4.5	4.8
4H 2H	4.4	5.1	4.7	5.3	5.5	3.9	4.6	4.2	4.8	5.0
3H	4.6	5.2	4.9	5.4	5.7	4.0	4.6	4.3	4.8	5.1
4H	4.6	5.1	4.9	5.4	5.7	3.9	4.4	4.2	4.7	5.0
6H	4.5	5.0	4.9	5.3	5.7	3.8	4.3	4.1	4.6	4.9
8H	4.4	4.9	4.8	5.2	5.6	3.7	4.2	4.1	4.5	4.9
12H	4.4	4.8	4.8	5.2	5.6	3.7	4.1	4.1	4.4	4.8
8H 4H	4.4	4.9	4.8	5.2	5.6	3.7	4.2	4.1	4.5	4.9
6H	4.4	4.7	4.8	5.1	5.5	3.6	4.0	4.1	4.4	4.8
8H	4.3	4.6	4.8	5.0	5.5	3.6	3.9	4.0	4.3	4.8
12H	4.2	4.5	4.7	5.0	5.4	3.5	3.8	4.0	4.2	4.7
12H 4H	4.4	4.8	4.8	5.2	5.6	3.7	4.1	4.1	4.5	4.9
6H	4.3	4.6	4.8	5.0	5.5	3.6	3.9	4.0	4.3	4.8
8H	4.2	4.5	4.7	5.0	5.4	3.5	3.8	4.0	4.2	4.7
Variations with the observer position at spacings:										
S = 1.0H	+ 1.3 / - 2.1					+ 1.4 / - 2.5				
1.5H	+ 1.8 / - 1.6					+ 1.7 / - 1.5				
2.0H	+ 2.9 / - 2.9					+ 2.8 / - 3.4				

CIE Pub.117 Corrected 835.1 lm Total Lamp Luminous Flux.(8log(F/F0) = -0.6)

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) $k(RI) \times RCR = 5$									
$k = 0.60$	86	80	76	86	80	76	85	79	76	72
0.80	94	88	84	93	88	84	92	87	84	80
1.00	99	93	89	98	92	89	96	92	88	84
1.25	103	97	94	102	97	93	100	96	93	88
1.50	105	101	97	104	100	97	102	98	96	91
2.00	108	104	101	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	112	108	105	110	107	104	106	104	102	96
4.00	114	111	109	112	109	107	108	106	104	97
5.00	115	113	111	113	111	109	109	107	106	98
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004					Suspended			SHRNOM = 1.25		

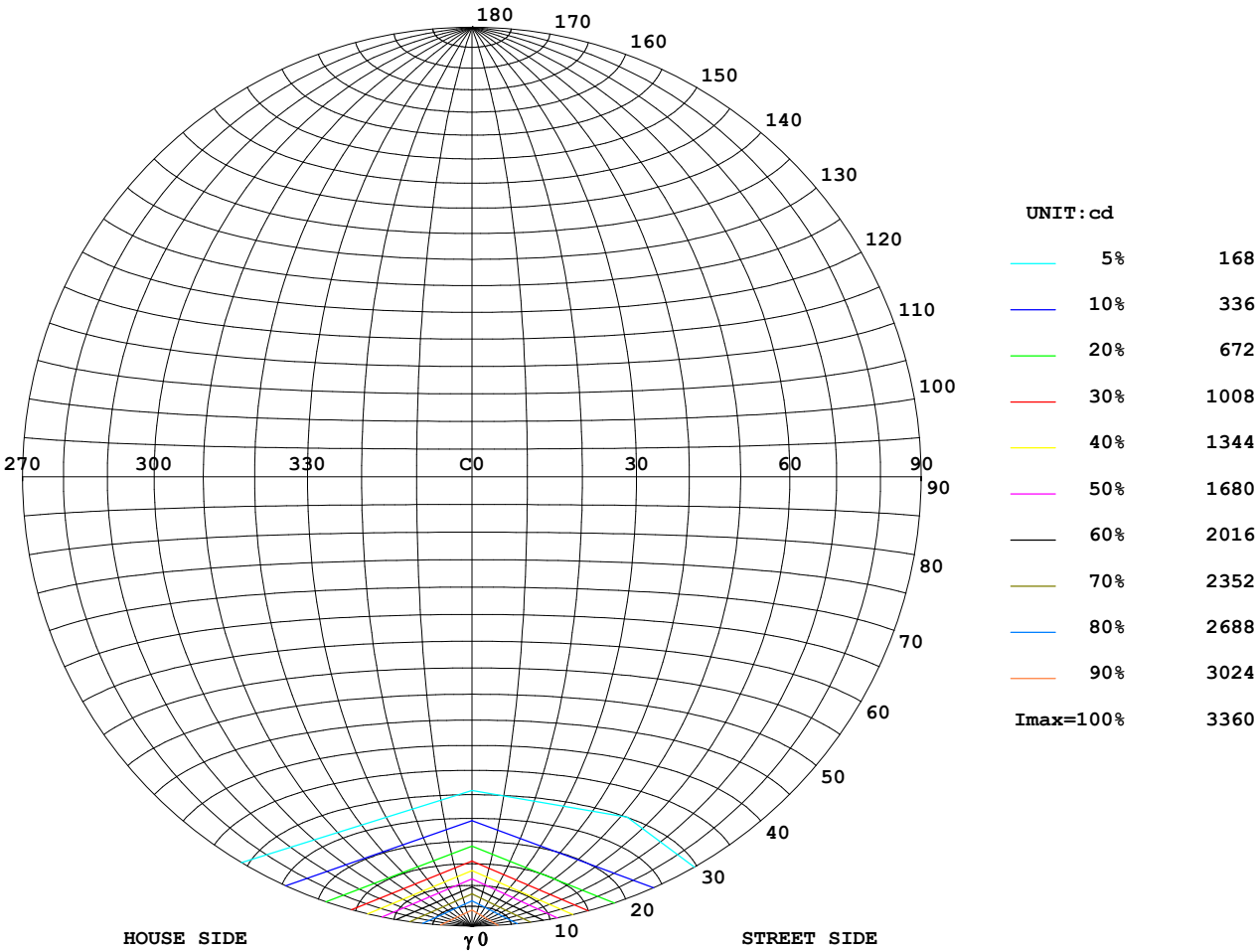
Test System: HopooColor HPG1800
 Temperature: 25.3DEG
 Operators:
 Test Date: 09-08-2026

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

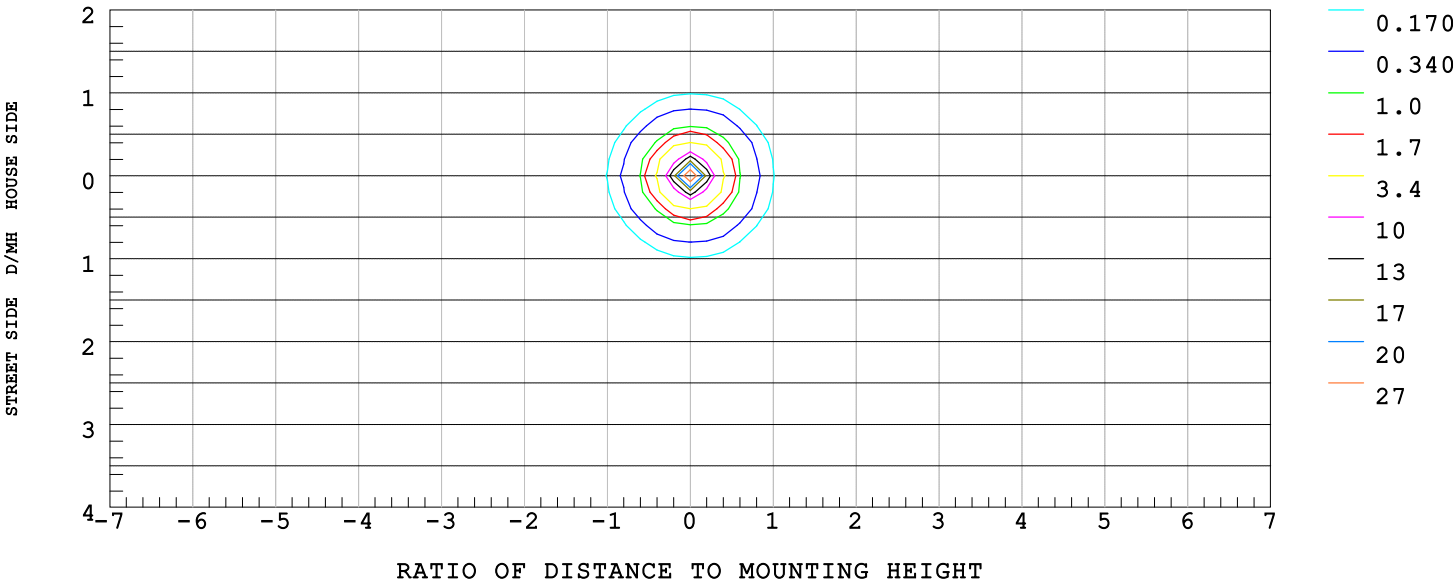
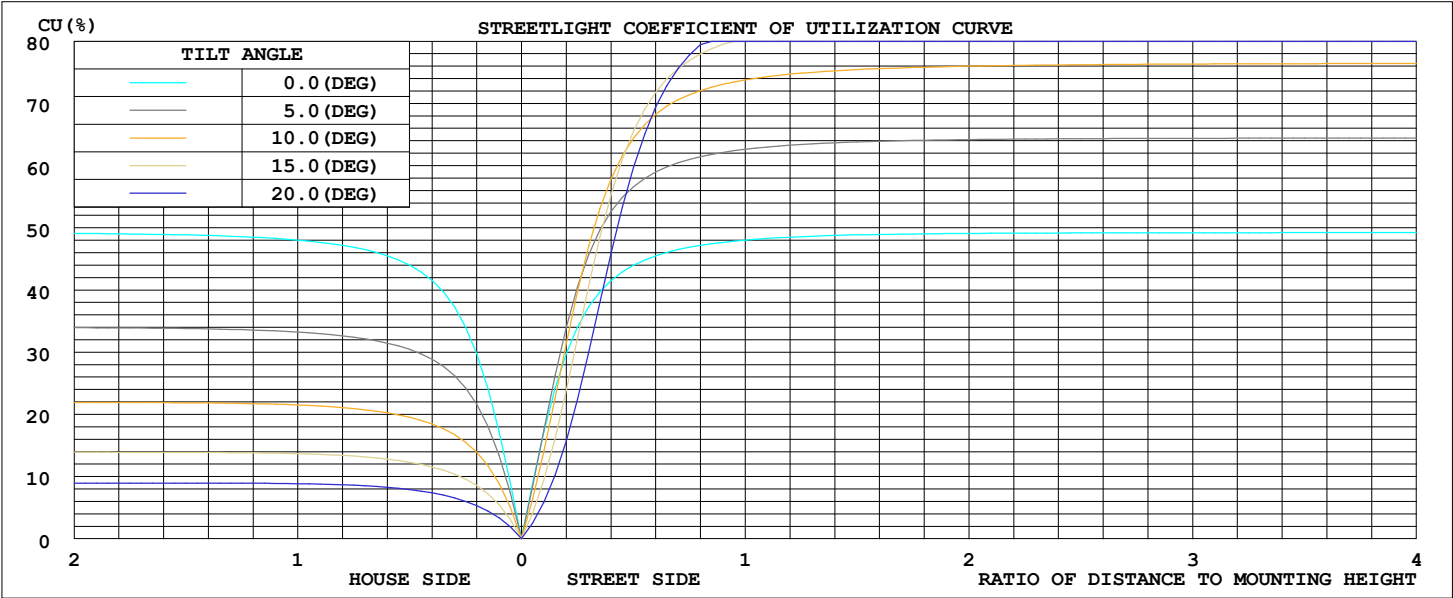
Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks:

ISOLUX DIAGRAM

Report number:

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

ILLUMINANCE AT MH=10 m,Enadir = 33.55 lx



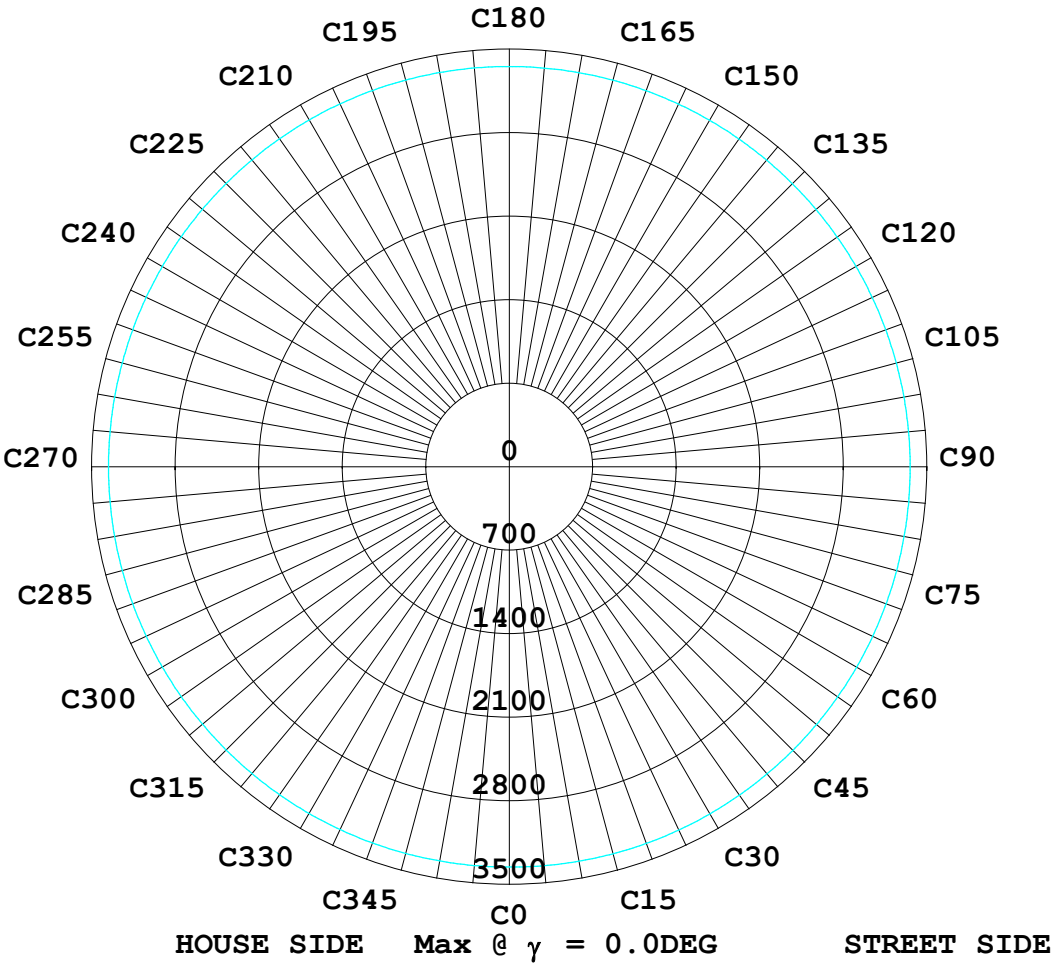
Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

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	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	3355	3360	3355	3360
5.0	2941	2856	2941	2856
10.0	1948	1846	1948	1846
15.0	1062	1008	1062	1008
20.0	566	527	566	527
25.0	309	280	309	280
30.0	179	160	179	160
35.0	111	98.2	111	98.2
40.0	72.6	64.6	72.6	64.6
45.0	49.8	44.2	49.8	44.2
50.0	34.5	30.3	34.5	30.3
55.0	23.4	20.3	23.4	20.3
60.0	15.2	12.8	15.2	12.8
65.0	9.23	6.54	9.23	6.54
70.0	5.23	3.30	5.23	3.30
75.0	2.61	0.55	2.61	0.55
80.0	0.90	0.00	0.90	0.00
85.0	0.07	0.00	0.07	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: