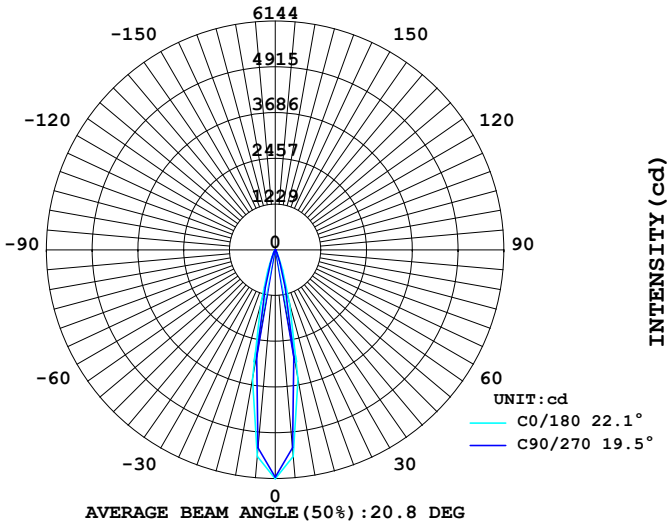
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

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

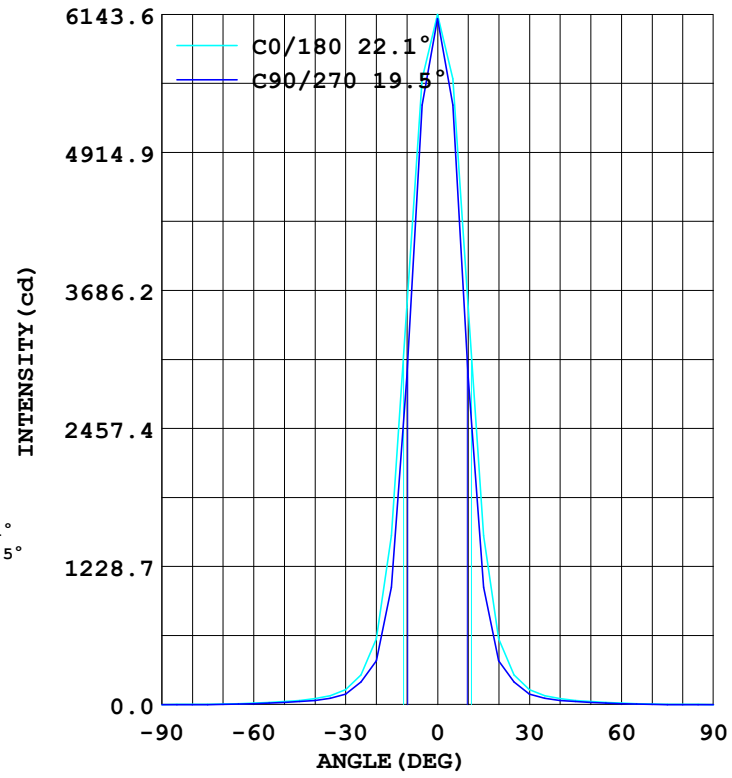
DATA OF LAMP		Imax(cd)	6144	S/MH(C0/180)	0.37
MODEL		EFFICIENCY(%)	100.0	S/MH(C90/270)	0.33
NOMINAL POWER(W)	14	TOTAL FLUX(lm)	1070.0	Voltage(V)	230.3
RATED VOLTAGE(V)	230	EFFICIENCY(lm/W)	72.4	Current(A)	0.116
NOMINAL FLUX(lm)	1070.1	η up(%)	0.0	Power(W)	14.79
LAMPS QUANTITY	1	η down(%)	100.0	Power Factor(PF)	0.557
TEST VOLTAGE(V)	230.3	Effictive Flux(lm)	860.3	EEI	0.000(E)

LUMINOUS INTENSITY DISTRIBUTION



AVERAGE BEAM ANGLE(50%):20.8 DEG

LUMINOUS INTENSITY DISTRIBUTION



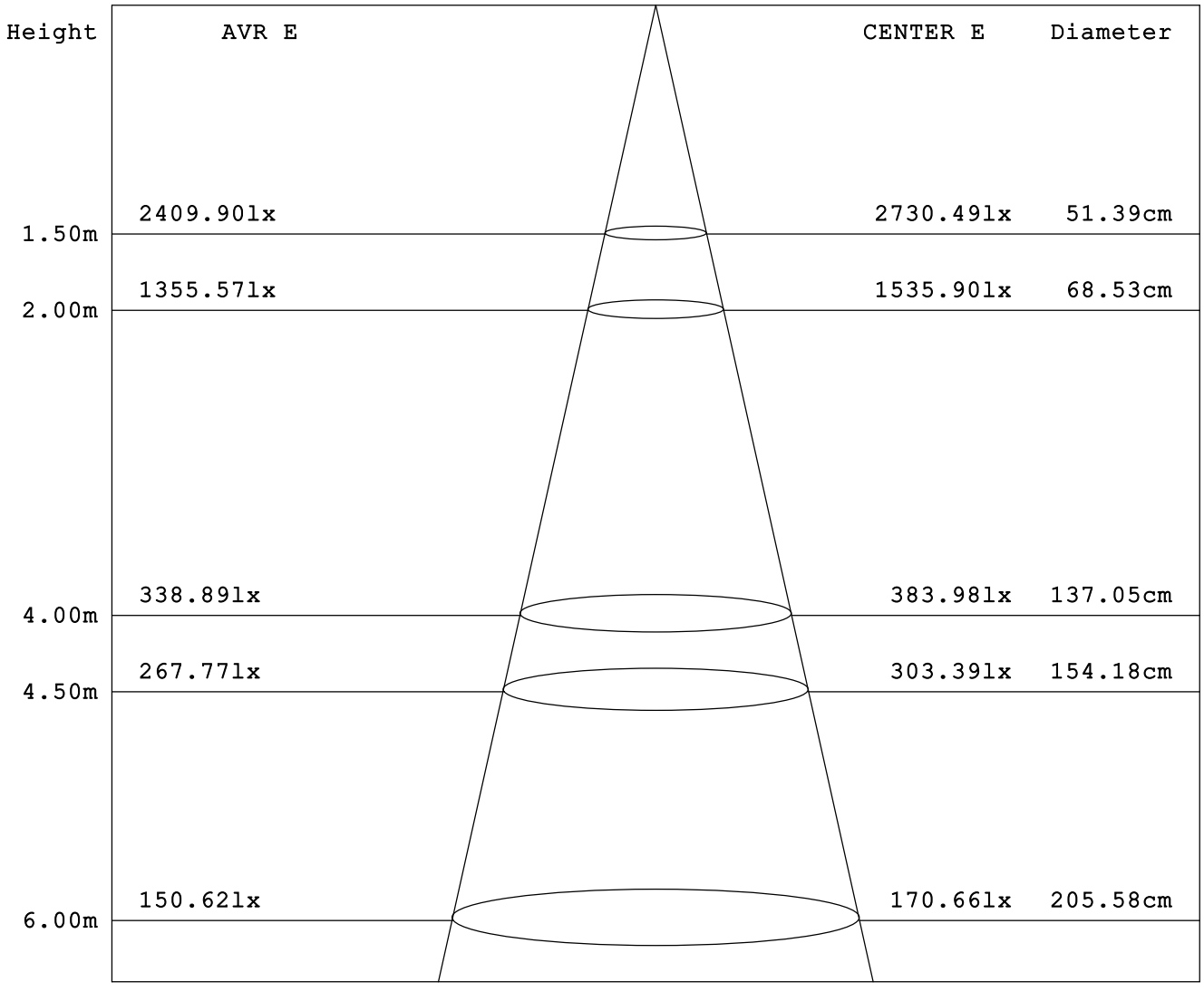
Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

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.:



Angle:19.4deg

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	3533	2910	3533	2910					0- 10	448.6	448.6
20.0	584.7	389.1	584.7	389.1					10- 20	411.6	860.3
30.0	133.3	92.65	133.3	92.65					20- 30	119.1	979.4
40.0	51.39	36.64	51.39	36.64					30- 40	44.81	1024
50.0	25.97	18.04	25.97	18.04					40- 50	24.65	1049
60.0	11.91	7.164	11.91	7.164					50- 60	13.71	1063
70.0	4.271	1.308	4.271	1.308					60- 70	5.761	1068
80.0	1.033	0	1.033	0					70- 80	1.450	1070
90.0	0	0	0	0					80- 90	0.216	1070
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 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:

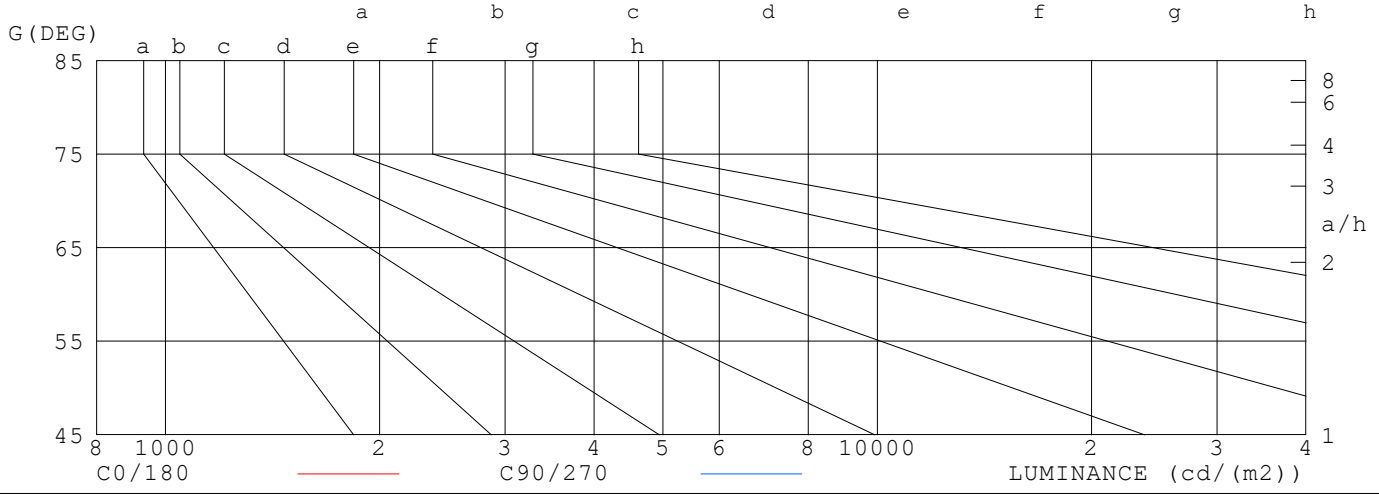
LUMINANCE LIMITATION CURVES

Report number:

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

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



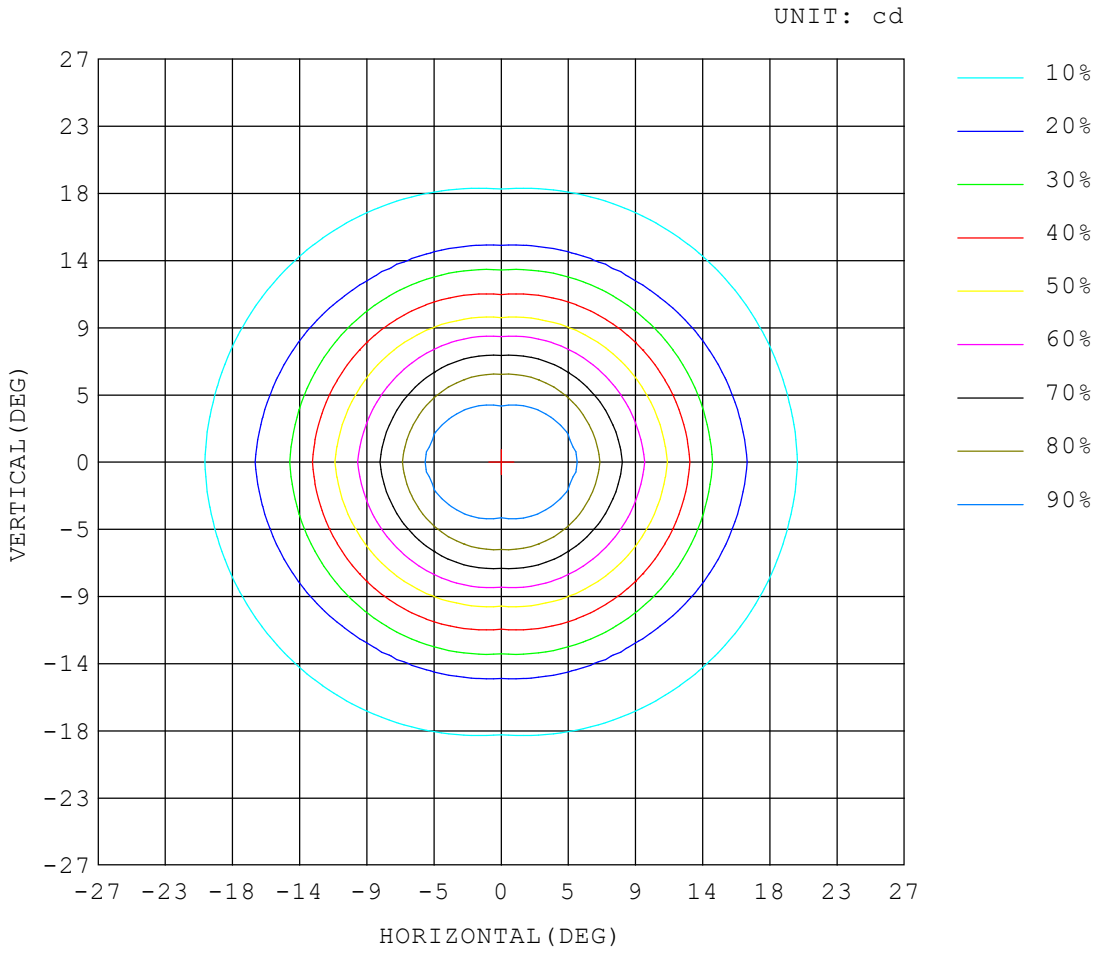
LUMINANCE cd/m2		
G(DEG)	C0/180	C90/270
85	32	0
80	60	0
75	85	0
70	125	38
65	174	86
60	238	143
55	315	208
50	404	281
45	517	363

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.:



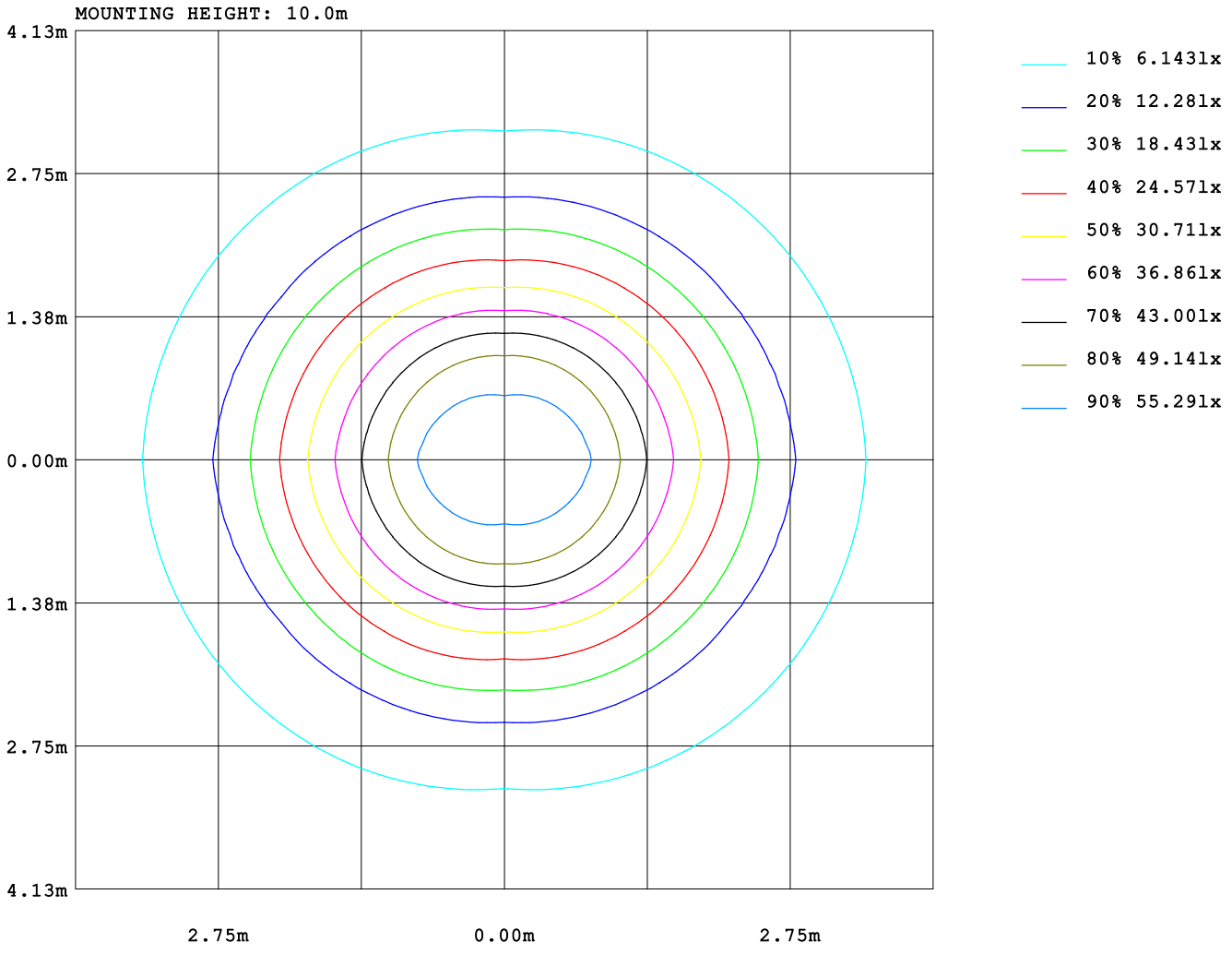
Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

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
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:

AREA LUMINOUS FLUX

Report number:

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

AREA FLUX DIAGRAM — UNIT:lm

VERTICAL(DEG)	-27	-24	-21	-18	-15	-12	-9	-6	HORIZONTAL(DEG) 6	9	12	15	18	21	24	27	Φ t	Φ a
27	0.16	0.20	0.25	0.29	0.37	0.43	0.49	0.52	0.53	0.53	0.52	0.49	0.43	0.37	0.29	0.25	0.20	0.16	6.47	0.00
24	0.20	0.26	0.33	0.43	0.53	0.64	0.74	0.80	0.82	0.82	0.80	0.74	0.64	0.53	0.43	0.33	0.26	0.20	9.49	0.00
21	0.25	0.33	0.46	0.60	0.78	0.96	1.09	1.23	1.29	1.29	1.23	1.09	0.96	0.78	0.60	0.46	0.33	0.25	14.0	0.00
18	0.30	0.44	0.60	0.86	1.11	1.48	1.95	2.26	2.35	2.35	2.26	1.95	1.48	1.11	0.86	0.60	0.44	0.30	22.7	13.3
15	0.38	0.55	0.82	1.15	1.72	2.48	3.17	3.94	4.38	4.38	3.94	3.17	2.48	1.72	1.15	0.82	0.55	0.38	37.2	30.5
12	0.46	0.68	1.05	1.61	2.61	3.77	5.53	6.88	7.50	7.50	6.88	5.53	3.77	2.61	1.61	1.05	0.68	0.46	60.2	54.3
9	0.53	0.84	1.28	2.24	3.52	5.78	8.11	10.0	11.1	11.1	10.0	8.11	5.78	3.52	2.24	1.28	0.84	0.53	87.2	82.2
	0.59	0.97	1.54	2.78	4.61	7.55	10.4	13.1	14.5	14.5	13.1	10.4	7.55	4.61	2.78	1.54	0.97	0.59	113	108
	0.63	1.05	1.74	3.13	5.42	8.68	12.0	14.9	15.9	15.9	14.9	12.0	8.68	5.42	3.13	1.74	1.05	0.63	127	123
	0.63	1.05	1.74	3.13	5.42	8.68	12.0	14.9	15.9	15.9	14.9	12.0	8.68	5.42	3.13	1.74	1.05	0.63	127	123
	0.59	0.97	1.54	2.78	4.61	7.55	10.4	13.1	14.5	14.5	13.1	10.4	7.55	4.61	2.78	1.54	0.97	0.59	113	108
-9	0.53	0.84	1.28	2.24	3.52	5.78	8.11	10.0	11.1	11.1	10.0	8.11	5.78	3.52	2.24	1.28	0.84	0.53	87.2	82.2
-12	0.46	0.68	1.05	1.61	2.61	3.77	5.53	6.88	7.50	7.50	6.88	5.53	3.77	2.61	1.61	1.05	0.68	0.46	60.2	54.3
-15	0.38	0.55	0.82	1.15	1.72	2.48	3.17	3.94	4.38	4.38	3.94	3.17	2.48	1.72	1.15	0.82	0.55	0.38	37.2	30.5
-18	0.30	0.44	0.60	0.86	1.11	1.48	1.95	2.26	2.35	2.35	2.26	1.95	1.48	1.11	0.86	0.60	0.44	0.30	22.7	13.3
-21	0.25	0.33	0.46	0.60	0.78	0.96	1.09	1.23	1.29	1.29	1.23	1.09	0.96	0.78	0.60	0.46	0.33	0.25	14.0	0.00
-24	0.20	0.26	0.33	0.43	0.53	0.64	0.74	0.80	0.82	0.82	0.80	0.74	0.64	0.53	0.43	0.33	0.26	0.20	9.49	0.00
-27	0.16	0.20	0.25	0.29	0.37	0.43	0.49	0.52	0.53	0.53	0.52	0.49	0.43	0.37	0.29	0.25	0.20	0.16	6.47	0.00
Φ t	7.02	10.6	16.1	26.2	41.3	63.6	87.1	108	117	117	108	87.1	63.6	41.3	26.2	16.1	10.6	7.02	1070	
Φ a	0.00	0.00	4.18	18.0	34.8	57.4	81.8	103	112	112	103	81.8	57.4	34.8	18.0	4.18	0.00	0.00		860

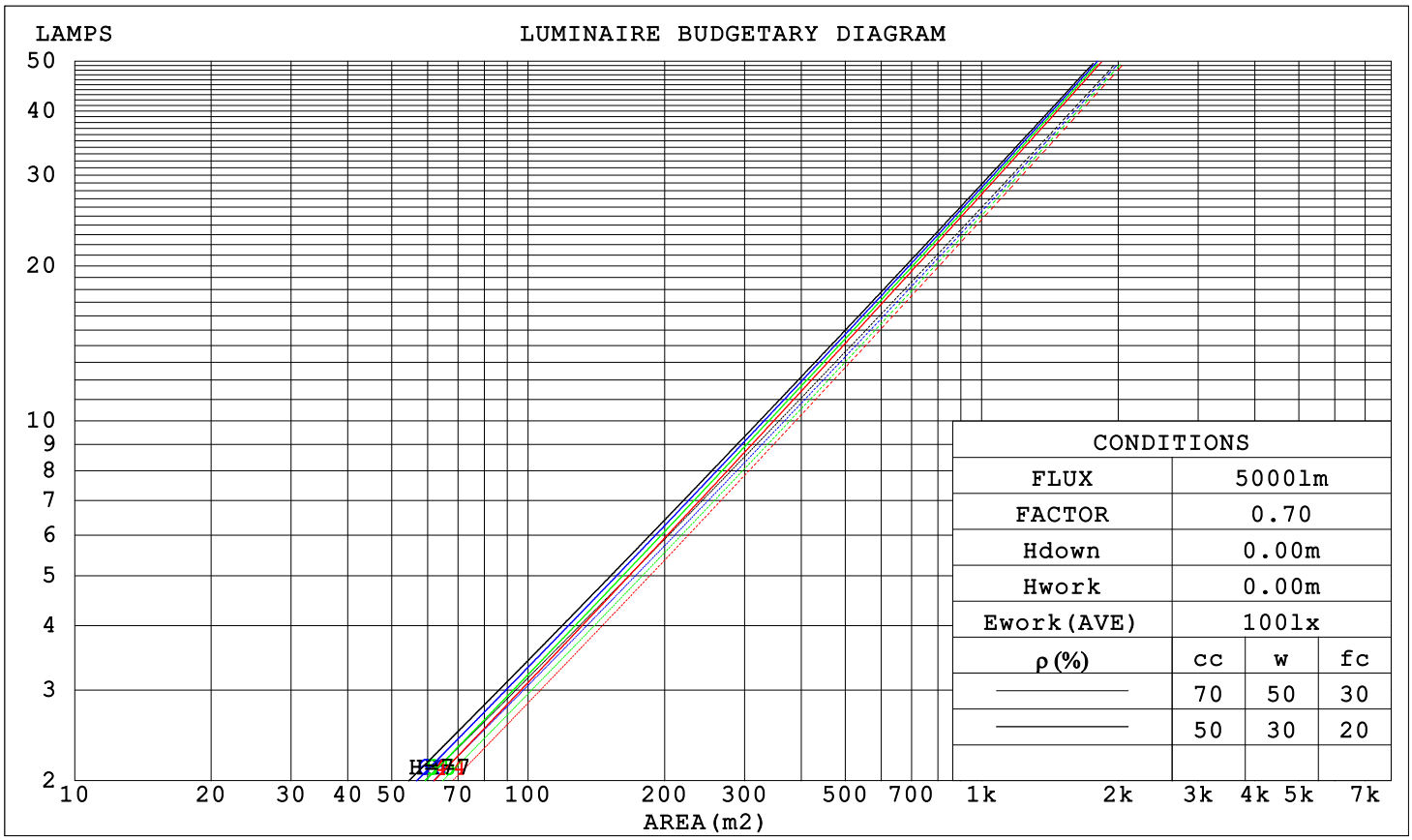
Test System:HopooColor HPG1800
Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG
Humidity:65.0%
Operators:
Test Distance:8.300 m
Test Date:09-08-2026
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

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

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	1.13	1.11	1.09	1.11	1.09	1.08	1.07	1.05	1.04	1.03	1.02	1.01	.00	.99	.98	.97
2.0	1.08	1.05	1.02	1.06	1.03	1.01	1.03	1.01	.99	.00	.98	.97	.97	.96	.95	.93
3.0	1.03	.99	.96	1.02	.98	.96	.99	.96	.94	.97	.95	.93	.95	.93	.91	.90
4.0	.99	.95	.92	.98	.94	.91	.96	.93	.90	.94	.92	.89	.92	.90	.88	.87
5.0	.95	.91	.88	.95	.91	.88	.93	.90	.87	.92	.89	.87	.90	.88	.86	.85
6.0	.92	.88	.85	.92	.88	.85	.90	.87	.84	.89	.86	.84	.88	.85	.83	.82
7.0	.89	.85	.82	.89	.85	.82	.88	.84	.82	.87	.84	.82	.86	.83	.81	.80
8.0	.87	.83	.80	.86	.83	.80	.86	.82	.80	.85	.82	.79	.84	.81	.79	.78
9.0	.85	.81	.78	.84	.80	.78	.83	.80	.78	.83	.80	.77	.82	.79	.77	.76
10.0	.82	.79	.76	.82	.78	.76	.81	.78	.76	.81	.78	.76	.80	.77	.75	.75



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:

WEC AND CCEC

Report number:

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

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coeffcients(WEC)									
0.0																
1.0	.137	.078	.025	.131	.075	.024	.118	.068	.022	.107	.062	.020	.097	.056	.018	
2.0	.128	.070	.021	.122	.067	.021	.112	.062	.019	.103	.058	.018	.094	.053	.017	
3.0	.119	.063	.019	.114	.061	.018	.106	.057	.017	.098	.054	.016	.091	.050	.016	
4.0	.111	.058	.017	.107	.056	.017	.100	.053	.016	.093	.050	.015	.087	.047	.014	
5.0	.104	.053	.015	.101	.052	.015	.095	.049	.015	.089	.047	.014	.084	.045	.013	
6.0	.098	.049	.014	.095	.048	.014	.090	.046	.013	.085	.044	.013	.081	.042	.013	
7.0	.093	.046	.013	.091	.045	.013	.086	.043	.013	.082	.042	.012	.078	.040	.012	
8.0	.088	.043	.012	.086	.042	.012	.082	.041	.012	.078	.040	.011	.075	.038	.011	
9.0	.084	.041	.011	.082	.040	.011	.079	.039	.011	.075	.038	.011	.072	.037	.011	
10.0	.080	.038	.011	.079	.038	.011	.075	.037	.010	.072	.036	.010	.070	.035	.010	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.168	.158	.148	.144	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.150	.133	.118	.129	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.135	.113	.096	.116	.098	.083	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.123	.098	.079	.105	.085	.069	.072	.059	.048	.042	.035	.029	.013	.011	.009	
5.0	.112	.086	.066	.096	.074	.057	.066	.052	.041	.038	.030	.024	.012	.010	.008	
6.0	.103	.076	.056	.089	.065	.049	.061	.046	.034	.035	.027	.020	.011	.009	.007	
7.0	.095	.067	.048	.082	.058	.042	.057	.041	.029	.033	.024	.018	.011	.008	.006	
8.0	.089	.061	.041	.076	.052	.036	.053	.037	.025	.031	.022	.015	.010	.007	.005	
9.0	.083	.055	.036	.071	.048	.031	.050	.033	.022	.029	.020	.013	.009	.006	.004	
10.0	.078	.050	.031	.067	.043	.027	.047	.031	.020	.027	.018	.012	.009	.006	.004	

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:

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	1.2	1.8	1.4	2.0	2.1	-0.3	0.3	-0.1	0.5	0.6
3H	1.4	2.0	1.6	2.2	2.4	-0.4	0.2	-0.1	0.4	0.6
4H	1.4	2.0	1.7	2.2	2.4	-0.4	0.1	-0.2	0.3	0.6
6H	1.4	1.9	1.7	2.2	2.4	-0.5	0.0	-0.2	0.3	0.5
8H	1.3	1.9	1.6	2.1	2.4	-0.6	-0.0	-0.3	0.2	0.5
12H	1.3	1.8	1.6	2.1	2.3	-0.6	-0.1	-0.3	0.2	0.4
4H 2H	1.2	1.8	1.5	2.0	2.2	-0.2	0.4	0.1	0.6	0.8
3H	1.4	1.9	1.7	2.2	2.5	-0.2	0.3	0.1	0.6	0.8
4H	1.4	1.9	1.8	2.2	2.5	-0.3	0.2	0.0	0.5	0.8
6H	1.4	1.8	1.8	2.2	2.5	-0.4	0.0	-0.0	0.3	0.7
8H	1.4	1.8	1.8	2.1	2.5	-0.5	-0.1	-0.1	0.3	0.6
12H	1.3	1.7	1.7	2.0	2.4	-0.5	-0.2	-0.1	0.2	0.6
8H 4H	1.3	1.7	1.7	2.0	2.4	-0.4	-0.0	-0.0	0.3	0.7
6H	1.3	1.6	1.7	2.0	2.4	-0.5	-0.2	-0.1	0.2	0.6
8H	1.2	1.5	1.7	1.9	2.4	-0.6	-0.3	-0.1	0.1	0.6
12H	1.2	1.4	1.6	1.9	2.3	-0.6	-0.4	-0.2	0.0	0.5
12H 4H	1.3	1.6	1.7	2.0	2.4	-0.5	-0.1	-0.1	0.3	0.6
6H	1.2	1.5	1.7	1.9	2.4	-0.6	-0.3	-0.1	0.1	0.6
8H	1.2	1.4	1.6	1.9	2.3	-0.6	-0.4	-0.2	0.0	0.5

Variations with the observer position at spacings:		
S = 1.0H	+ 1.2 / - 1.7	+ 1.5 / - 2.7
1.5H	+ 1.7 / - 1.6	+ 1.4 / - 1.6
2.0H	+ 2.9 / - 2.7	+ 2.4 / - 3.5

CIE Pub.117 Corrected 1070 lm Total Lamp Luminous Flux.(8log(F/F0) = 0.2)

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:

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) x RCR = 5									
k = 0.60	89	83	79	88	83	79	88	82	79	76
0.80	96	91	87	95	90	87	94	90	86	83
1.00	100	95	91	99	94	91	98	94	91	87
1.25	104	99	96	103	99	95	101	97	95	91
1.50	107	102	99	105	101	98	103	100	97	93
2.00	109	105	102	108	104	101	105	102	100	95
2.50	111	107	104	109	106	103	106	103	101	96
3.00	112	109	106	110	107	105	107	105	103	97
4.00	114	111	109	112	110	108	109	107	105	98
5.00	115	113	111	113	111	110	109	108	107	99
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

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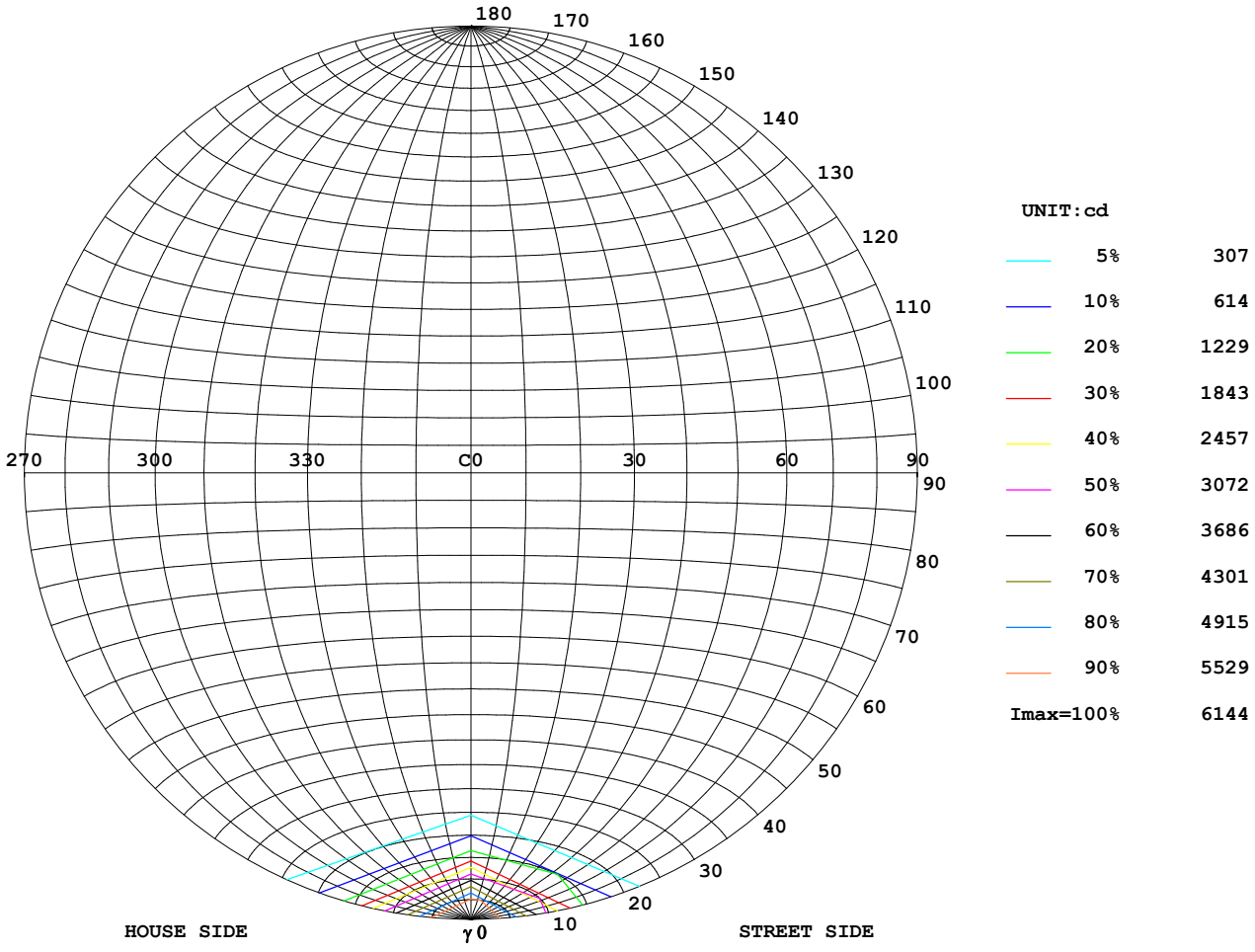
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:8.300 m
Test Date:09-08-2026 Remarks:

ISOCANDELA DIAGRAM

Report number:

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



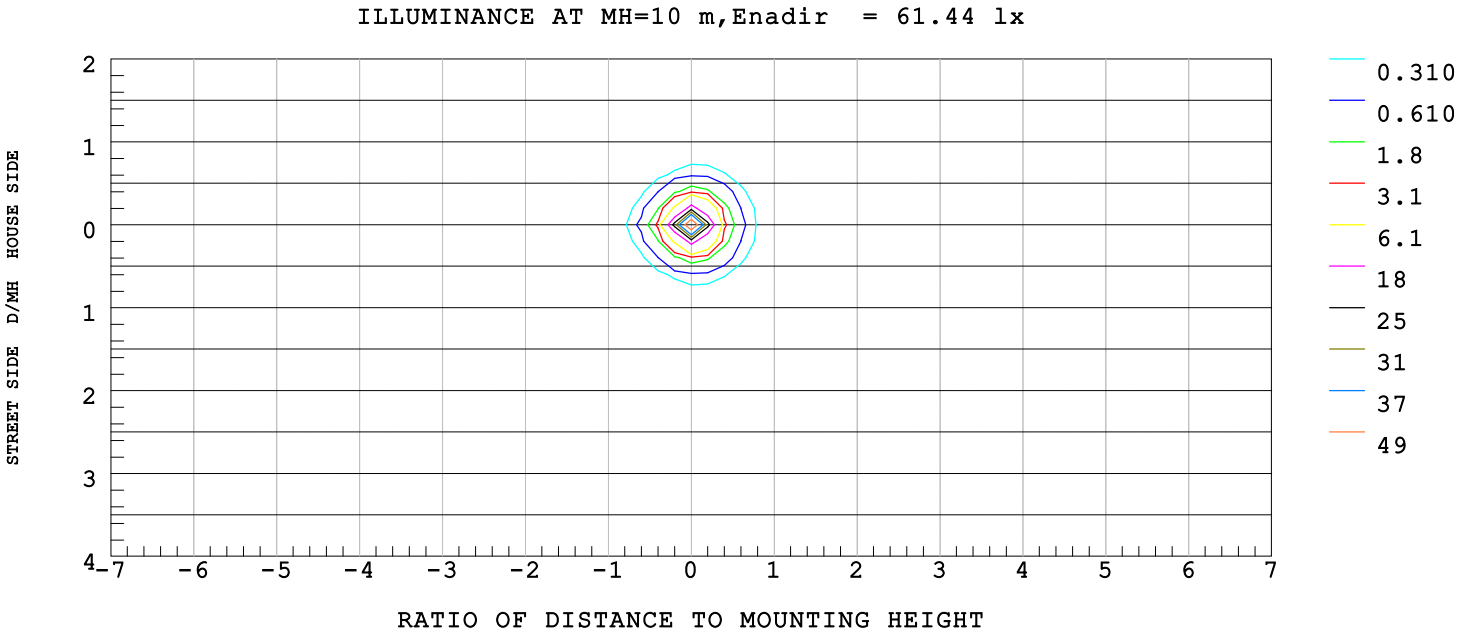
Test System:HopooColor HPG1800
Temperature:25.3DEG
Operators:
Test Date:09-08-2026

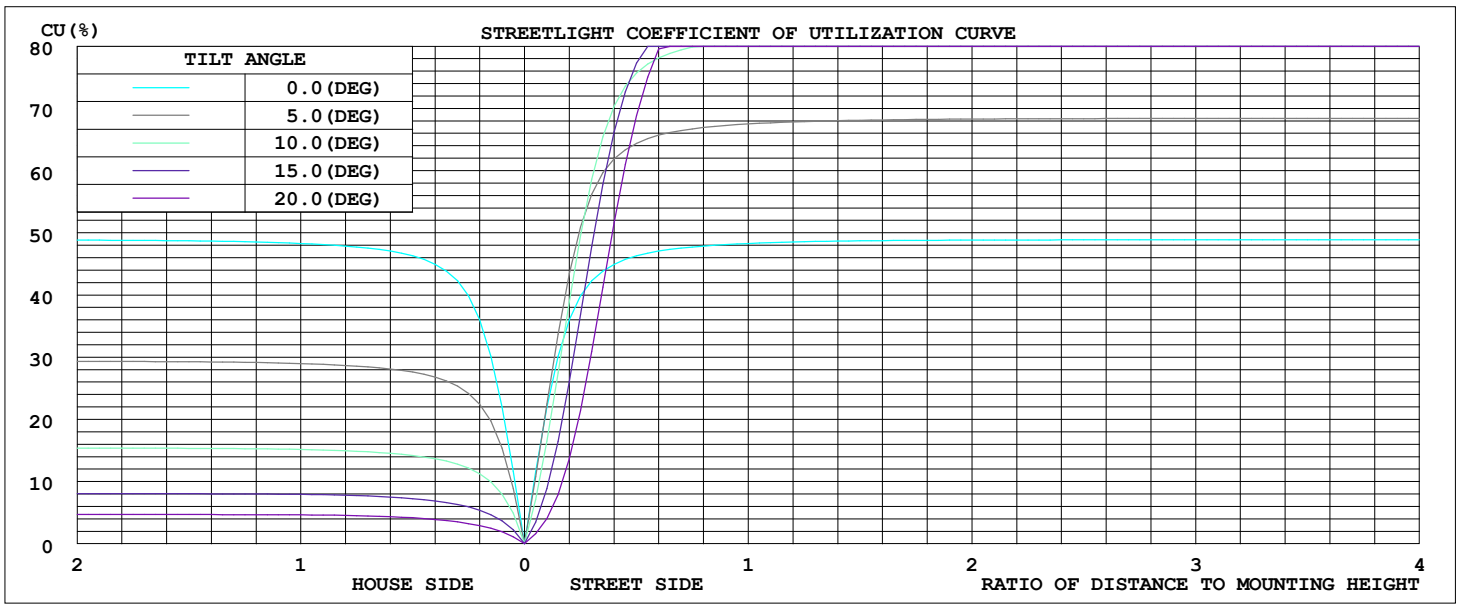
Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:8.300 m
Remarks:

ISOLUX DIAGRAM

Report number:

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



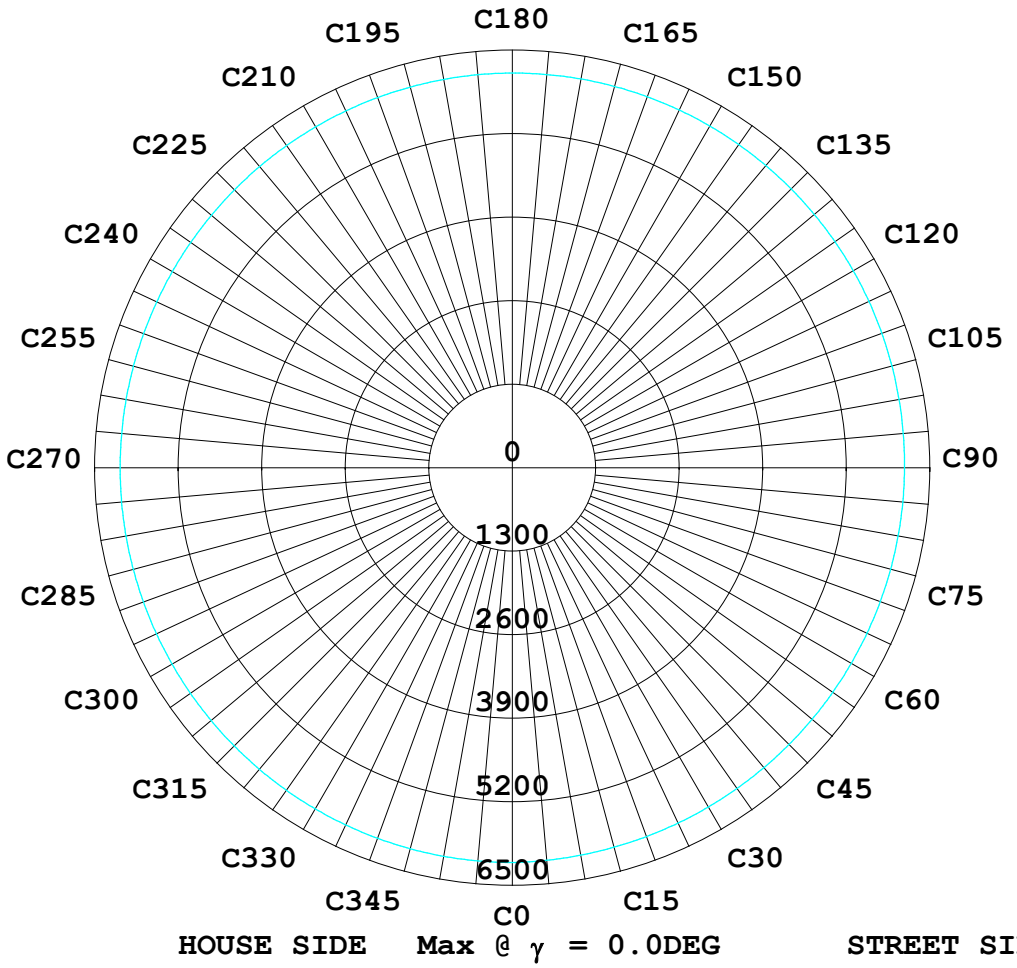


Test System:HopooColor HPG1800 Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:8.300 m
Test Date:09-08-2026 Remarks:

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Report number:

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

UNIT: cd

γ (DEG) \ C(DEG)	0	90	180	270
0.0	6144	6104	6144	6104
5.0	5570	5334	5570	5334
10.0	3533	2910	3533	2910
15.0	1502	1043	1502	1043
20.0	585	389	585	389
25.0	264	201	264	201
30.0	133	92.6	133	92.6
35.0	77.7	54.9	77.7	54.9
40.0	51.3	36.6	51.3	36.6
45.0	36.5	25.6	36.5	25.6
50.0	25.9	18.0	25.9	18.0
55.0	18.0	11.9	18.0	11.9
60.0	11.9	7.16	11.9	7.16
65.0	7.37	3.65	7.37	3.65
70.0	4.27	1.30	4.27	1.30
75.0	2.20	0.00	2.20	0.00
80.0	1.03	0.00	1.03	0.00
85.0	0.28	0.00	0.28	0.00
90.0	0.00	0.00	0.00	0.00

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: