

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: METALUX

Report Number: P1433482

Luminaire Tested: EHBR1-24-UNV-A1-L935

Issue Date: 3/13/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1433482  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2601-654-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/13/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: EHBR1-24-UNV-A1-L935  
Description: Elevate Round Highbay at, 24000 lumens, 3500K 90CRI LEDs with A lens  
Light Source: -  
Ballast/Driver: -

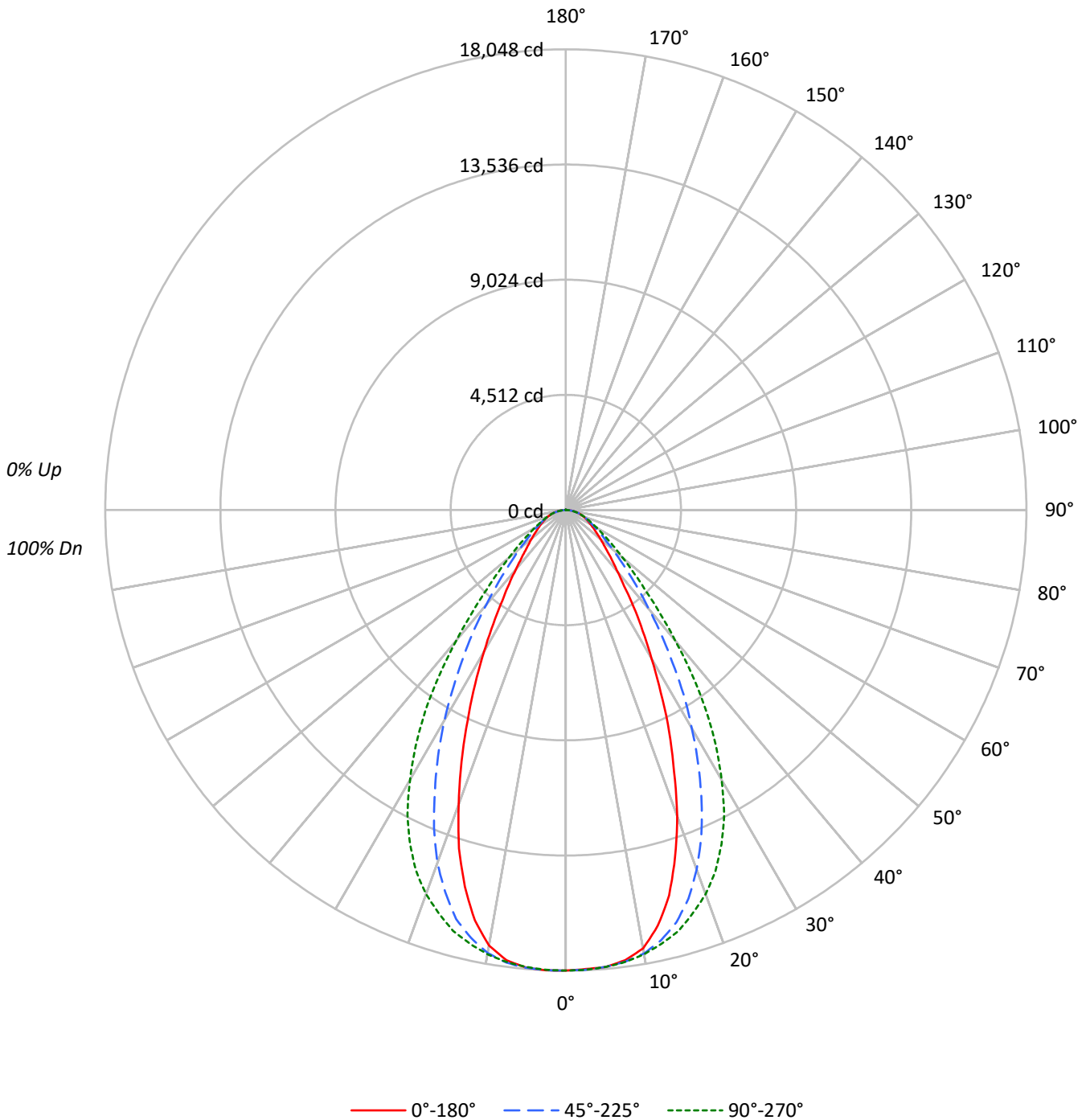
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22411.7 lumens  
Efficiency: N/A  
Efficacy: 174.7 lumens/watt  
Spacing Criteria (0/90/45): 0.8 / 1.07 / 0.95  
Luminous Opening: Circular (Dia: 1.71' x H: 0')  
CIE Type: Direct

Input Watts (W): 128.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P1433482  
CATALOG NUMBER: EHBR1-24-UNV-A1-L935

### Luminous Intensity Polar Plot





TEST NUMBER: P1433482

CATALOG NUMBER: EHBR1-24-UNV-A1-L935

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100	
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	92	94	93	92	90	
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	87	84	82	80	
3	98	90	83	78	95	88	82	78	85	81	77	83	79	75	80	77	74	80	77	74	72	
4	91	82	75	70	89	81	75	70	79	73	69	77	72	68	75	71	67	75	71	67	65	
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	69	65	61	60	
6	81	70	63	58	79	69	62	58	68	62	57	66	61	57	65	60	56	65	60	56	55	
7	76	65	58	53	75	64	58	53	63	57	52	62	56	52	60	56	52	60	56	52	50	
8	72	61	54	49	70	60	53	49	59	53	48	58	52	48	57	52	48	57	52	48	46	
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	53	48	45	43	
10	64	53	47	42	63	53	46	42	52	46	42	51	46	42	50	45	42	50	45	42	40	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	84718	84718	84718	84718	84718
5°	84708	84695	84699	84848	84796
10°	83157	84127	84260	84022	82613
15°	76002	81305	82978	80653	74257
20°	63778	74906	80024	73496	61296
25°	49690	65249	74787	62866	47115
30°	36510	53562	66221	51530	34653
35°	26548	41646	54901	39853	24815
40°	19288	31062	40857	29750	18693
45°	15370	22981	28858	21985	14838
50°	12922	17496	21164	16920	12726
55°	11467	14039	16288	13804	11313
60°	10555	11959	13245	11885	10628
65°	10140	10836	11433	10870	10236
70°	10003	10242	10557	10298	10102
75°	9900	9838	9900	9865	9996
80°	9955	9238	9033	9381	9955
85°	8982	7613	7533	7737	9246

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 30236 cd/sqm



TEST NUMBER: P1433482  
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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1703.6	7.6
10°-20°	4578.7	20.4
20°-30°	5567.7	24.8
30°-40°	4535.3	20.2
40°-50°	2723.0	12.1
50°-60°	1567.1	7.0
60°-70°	980.7	4.4
70°-80°	577.6	2.6
80°-90°	168.9	0.8
90°-100°	0.1	0.0
100°-110°	0.1	0.0
110°-120°	0.1	0.0
120°-130°	0.3	0.0
130°-140°	1.2	0.0
140°-150°	2.1	0.0
150°-160°	2.3	0.0
160°-170°	2.0	0.0
170°-180°	0.9	0.0
0°-30°	11850.1	52.9
0°-40°	16385.4	73.1
0°-60°	20675.5	92.3
0°-90°	22402.8	100.0
90°-120°	0.3	0.0
90°-150°	3.8	0.0
90°-180°	9.0	0.0
0°-180°	22411.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	18040	18040	18040	18040	18040	
5°	17969	17966	17967	17999	17988	1698
15°	15633	16723	17068	16589	15274	4301
25°	9590	12592	14433	12133	9093	4369
35°	4631	7264	9576	6952	4329	2930
45°	2314	3460	4345	3310	2234	1826
55°	1401	1715	1989	1686	1382	1266
65°	912	975	1029	978	921	907
75°	546	542	546	544	551	578
85°	167	141	140	144	172	178
90°	1	0	0	0	0	8
95°	1	0	0	0	0	1
105°	1	0	0	0	1	1
115°	1	0	0	0	1	1
125°	1	0	0	0	1	1
135°	2	2	2	2	2	1
145°	3	3	3	3	4	2
155°	6	4	4	5	6	3
165°	9	7	6	8	9	2
175°	11	10	8	10	11	1
180°	10	10	10	10	10	



TEST NUMBER: P1433482  
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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	18040.2	18040.2	18040.2	18040.2	18040.2	18040.2	18040.2	18040.2	18040.2
2.5°	18000.6	18016.8	18023.6	18027.4	18031.5	18042.9	18047.8	18039.9	18046.7
5°	17969.3	17970.3	17966.5	17983.6	17967.4	17978.7	17999.1	17991.1	17988.1
7.5°	17786.4	17824.2	17846.5	17852.1	17855.2	17869.1	17883.4	17802.2	17790.1
10°	17438.7	17501.9	17642.0	17682.0	17670.0	17692.6	17620.1	17407.7	17324.6
12.5°	16676.7	16898.4	17262.7	17424.7	17395.3	17415.3	17168.2	16720.1	16462.4
15°	15632.7	15957.9	16723.4	17043.1	17067.6	17043.1	16589.3	15716.1	15273.7
17.5°	14244.8	14845.6	15972.7	16593.1	16557.6	16569.3	15707.8	14417.1	13910.8
20°	12762.1	13402.5	14988.8	16023.7	16012.8	15947.0	14706.6	13004.3	12265.3
22.5°	11085.2	11911.3	13861.3	15323.5	15319.4	15209.8	13487.2	11461.5	10665.9
25°	9589.7	10399.9	12592.5	14465.8	14433.3	14308.7	12132.7	9922.6	9092.8
27.5°	8043.6	8885.8	11237.9	13460.7	13438.4	13302.5	10837.7	8484.2	7694.5
30°	6732.9	7502.9	9877.6	12354.8	12212.0	12196.5	9502.9	7152.2	6390.5
32.5°	5609.9	6270.0	8595.3	11198.3	10945.5	11017.6	8172.5	6038.3	5283.5
35°	4630.9	5212.4	7264.5	9860.7	9576.5	9669.8	6951.6	4954.7	4328.6
37.5°	3758.5	4317.7	6136.6	8559.7	8125.2	8301.3	5877.7	4137.8	3636.0
40°	3146.3	3589.9	5066.9	7132.2	6664.8	6951.6	4853.0	3451.2	3049.3
42.5°	2711.0	3000.5	4182.0	5769.3	5410.8	5614.1	3999.9	2885.2	2584.5
45°	2314.3	2545.2	3460.3	4552.7	4345.2	4533.7	3310.3	2460.1	2234.2
47.5°	2021.5	2199.5	2848.6	3676.4	3547.6	3607.3	2764.7	2146.9	1963.3
50°	1768.7	1906.2	2394.8	2967.2	2896.9	2933.6	2315.9	1868.0	1741.9
52.5°	1572.2	1673.1	2008.6	2438.7	2403.9	2409.6	1973.5	1643.3	1551.8
55°	1400.6	1471.0	1714.7	1997.6	1989.4	1990.8	1686.0	1456.2	1381.8
57.5°	1250.6	1308.8	1473.6	1678.0	1665.9	1668.6	1460.0	1293.3	1245.4
60°	1123.8	1162.6	1273.3	1418.0	1410.2	1406.7	1265.4	1148.2	1131.6
62.5°	1011.1	1036.0	1112.8	1215.6	1200.4	1203.8	1112.3	1037.2	1012.6
65°	912.5	921.2	975.2	1038.7	1028.9	1037.2	978.2	926.8	921.2
67.5°	816.2	824.9	856.6	899.3	887.9	894.7	857.3	827.1	822.2
70°	728.5	728.1	745.9	768.9	768.9	770.0	750.0	731.9	735.7
72.5°	637.8	635.5	640.9	656.3	652.2	666.5	645.4	639.7	640.4
75°	545.6	539.2	542.2	550.1	545.6	553.1	543.7	550.9	550.9
77.5°	458.7	446.6	442.8	444.0	435.7	447.0	449.3	454.2	465.5
80°	368.1	351.0	341.6	341.2	334.0	341.2	346.9	357.1	368.1
82.5°	273.2	258.5	242.5	239.5	235.0	239.2	246.7	258.8	276.6
85°	166.7	151.2	141.3	136.0	139.8	139.8	143.6	160.6	171.6
87.5°	60.1	52.5	43.1	43.4	44.6	46.1	47.9	60.5	66.2
90°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
92.5°	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
95°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
97.5°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
100°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
102.5°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
105°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
107.5°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
110°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7



TEST NUMBER: P1433482  
 CATALOG NUMBER: EHBR1-24-UNV-A1-L935

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
115°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
117.5°	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
120°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.7
122.5°	1.2	0.4	0.0	0.0	0.0	0.0	0.0	0.4	1.2
125°	1.2	0.4	0.0	0.0	0.0	0.0	0.4	0.4	1.2
127.5°	1.2	0.4	0.0	0.0	0.0	0.0	0.4	0.7	1.2
130°	1.2	0.7	0.4	0.0	0.4	0.4	0.7	0.7	1.2
132.5°	1.5	1.2	1.2	0.7	0.7	1.2	1.2	1.5	1.5
135°	1.9	1.5	1.5	1.2	1.5	1.5	1.5	1.5	1.9
137.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3
140°	2.6	2.3	2.3	2.3	2.3	2.3	2.3	2.6	2.6
142.5°	3.0	3.0	2.6	2.6	2.6	3.0	3.0	3.0	3.4
145°	3.4	3.4	3.0	3.0	3.0	3.4	3.4	3.8	3.8
147.5°	4.5	4.2	3.4	3.4	3.4	3.4	3.8	4.2	4.5
150°	4.9	4.5	3.8	3.8	3.8	3.8	4.2	4.9	5.3
152.5°	5.3	4.9	4.2	3.8	3.8	3.8	4.5	4.9	5.7
155°	5.7	5.3	4.5	3.8	3.8	4.2	4.9	5.7	6.1
157.5°	6.8	6.1	5.3	4.5	4.5	4.9	5.7	6.4	6.8
160°	7.5	6.8	6.1	5.3	5.3	5.7	6.4	7.2	7.5
162.5°	8.3	7.5	6.4	6.1	5.7	6.1	6.8	8.0	8.3
165°	8.7	8.0	7.2	6.4	6.4	6.4	7.5	8.3	8.7
167.5°	9.1	8.7	7.5	6.8	6.8	6.8	8.0	8.7	9.1
170°	9.4	9.1	8.0	7.2	6.8	7.2	8.3	9.1	9.4
172.5°	10.2	9.8	8.7	8.0	7.5	8.0	9.1	9.8	10.2
175°	11.3	10.6	9.8	8.7	8.3	8.7	9.8	10.6	11.3
177.5°	11.7	11.0	10.2	9.1	8.7	9.1	10.2	11.0	11.7
180°	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2



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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	17.81	19.08	18.17	19.39	19.70	18.79	20.06	19.16	20.37	20.69
	3H	19.38	20.50	19.76	20.83	21.20	20.13	21.26	20.51	21.59	21.96
	4H	20.04	21.09	20.45	21.45	21.83	20.69	21.74	21.10	22.09	22.48
	6H	20.60	21.56	21.02	21.94	22.33	21.12	22.09	21.54	22.46	22.85
	8H	20.80	21.71	21.23	22.10	22.51	21.26	22.17	21.69	22.57	22.97
	12H	20.93	21.80	21.36	22.18	22.62	21.34	22.21	21.77	22.59	23.03
4H	2H	18.38	19.43	18.79	19.78	20.17	19.15	20.20	19.55	20.55	20.94
	3H	20.17	21.03	20.59	21.44	21.84	20.74	21.60	21.16	22.01	22.41
	4H	20.97	21.74	21.40	22.16	22.61	21.44	22.21	21.87	22.63	23.08
	6H	21.65	22.32	22.12	22.77	23.24	22.01	22.68	22.47	23.12	23.59
	8H	21.90	22.52	22.37	22.97	23.44	22.19	22.82	22.66	23.26	23.74
	12H	22.07	22.62	22.56	23.10	23.58	22.31	22.86	22.80	23.35	23.82
8H	4H	21.25	21.87	21.72	22.32	22.79	21.67	22.29	22.14	22.74	23.21
	6H	22.07	22.57	22.57	23.07	23.55	22.37	22.88	22.87	23.38	23.86
	8H	22.40	22.85	22.92	23.37	23.86	22.63	23.09	23.16	23.60	24.10
	12H	22.65	23.05	23.16	23.54	24.12	22.82	23.22	23.34	23.72	24.29
12H	4H	21.26	21.81	21.75	22.30	22.77	21.68	22.23	22.17	22.72	23.19
	6H	22.11	22.57	22.64	23.08	23.58	22.41	22.87	22.94	23.39	23.88
	8H	22.50	22.90	23.02	23.40	23.97	22.73	23.13	23.25	23.63	24.20

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-6

Test Date: 08/01/2025

Luminaire Tested: EHBR-60-L935-N

Data in this report applies to families of products including EHBR-60-L935-N

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2506-472-6  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 08/05/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Metalux  
 Catalog Number: **EHBR-60-L935-N**  
 Description: Elevate Round Highbay at, 60000 lumens, 3500K 90CRI LEDs with N lens

**Spectral Parameters**

CCT (K): 3406  
 CIE u': 0.2394  
 CIE v': 0.5094  
 Duv: -0.0028  
 CIE x: 0.4076  
 CIE y: 0.3856  
 CIE z: 0.2068  
 Peak Wavelength (nm): 630  
 Dominant Wavelength (nm): 582  
 Purity: 38.0517  
 Rf: 91.3  
 Rg: 100

CRI (Ra):	94.6		
R1:	96.6	R9:	63.8
R2:	98.4	R10:	94.7
R3:	98.1	R11:	96.6
R4:	95.8	R12:	80.9
R5:	96.2	R13:	97.4
R6:	95.4	R14:	98.3
R7:	91.8	R15:	93.1
R8:	84.4		



**Test Conditions**

Stabilization Time: 35M  
 Operation Time: 1H 35M  
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-6

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208	10/22/2024	10/22/2025
Sphere Thermometer	ONSET IN0085	10/22/2024	10/22/2025
Room Thermometer	ONSET IN0046	10/22/2024	10/22/2025

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CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.62**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 3.3**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

**Summary**

$R_f = 91.3$   
 $R_g = 100$   
 $CIE R_a = 94.6$   
 $R_9 = 63.8$



**Color Vector Graphics**



**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 86	CES26 = 94	CES51 = 97	CES76 = 90
CES02 = 63	CES27 = 92	CES52 = 98	CES77 = 86
CES03 = 31	CES28 = 97	CES53 = 98	CES78 = 86
CES04 = 70	CES29 = 97	CES54 = 93	CES79 = 90
CES05 = 50	CES30 = 92	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 97	CES56 = 96	CES81 = 74
CES07 = 43	CES32 = 89	CES57 = 94	CES82 = 96
CES08 = 41	CES33 = 99	CES58 = 95	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 98	CES84 = 95
CES10 = 75	CES35 = 97	CES60 = 92	CES85 = 79
CES11 = 58	CES36 = 81	CES61 = 93	CES86 = 79
CES12 = 64	CES37 = 96	CES62 = 86	CES87 = 92
CES13 = 44	CES38 = 87	CES63 = 94	CES88 = 98
CES14 = 74	CES39 = 99	CES64 = 91	CES89 = 84
CES15 = 72	CES40 = 97	CES65 = 90	CES90 = 96
CES16 = 48	CES41 = 96	CES66 = 89	CES91 = 75
CES17 = 49	CES42 = 94	CES67 = 88	CES92 = 76
CES18 = 56	CES43 = 93	CES68 = 89	CES93 = 86
CES19 = 71	CES44 = 99	CES69 = 90	CES94 = 74
CES20 = 67	CES45 = 97	CES70 = 88	CES95 = 83
CES21 = 86	CES46 = 97	CES71 = 83	CES96 = 92
CES22 = 78	CES47 = 91	CES72 = 94	CES97 = 96
CES23 = 91	CES48 = 91	CES73 = 83	CES98 = 95
CES24 = 90	CES49 = 96	CES74 = 90	CES99 = 92
CES25 = 71	CES50 = 98	CES75 = 85	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)