

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: P1433002

Luminaire Tested: EHBR1-42-UNV-A1-L850

Issue Date: 3/13/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1433002  
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: EHBR1-42-UNV-A1-L850  
Description: Elevate Round Highbay at, 42000 lumens, 5000K 80CRI LEDs with A lens  
Light Source: -  
Ballast/Driver: -

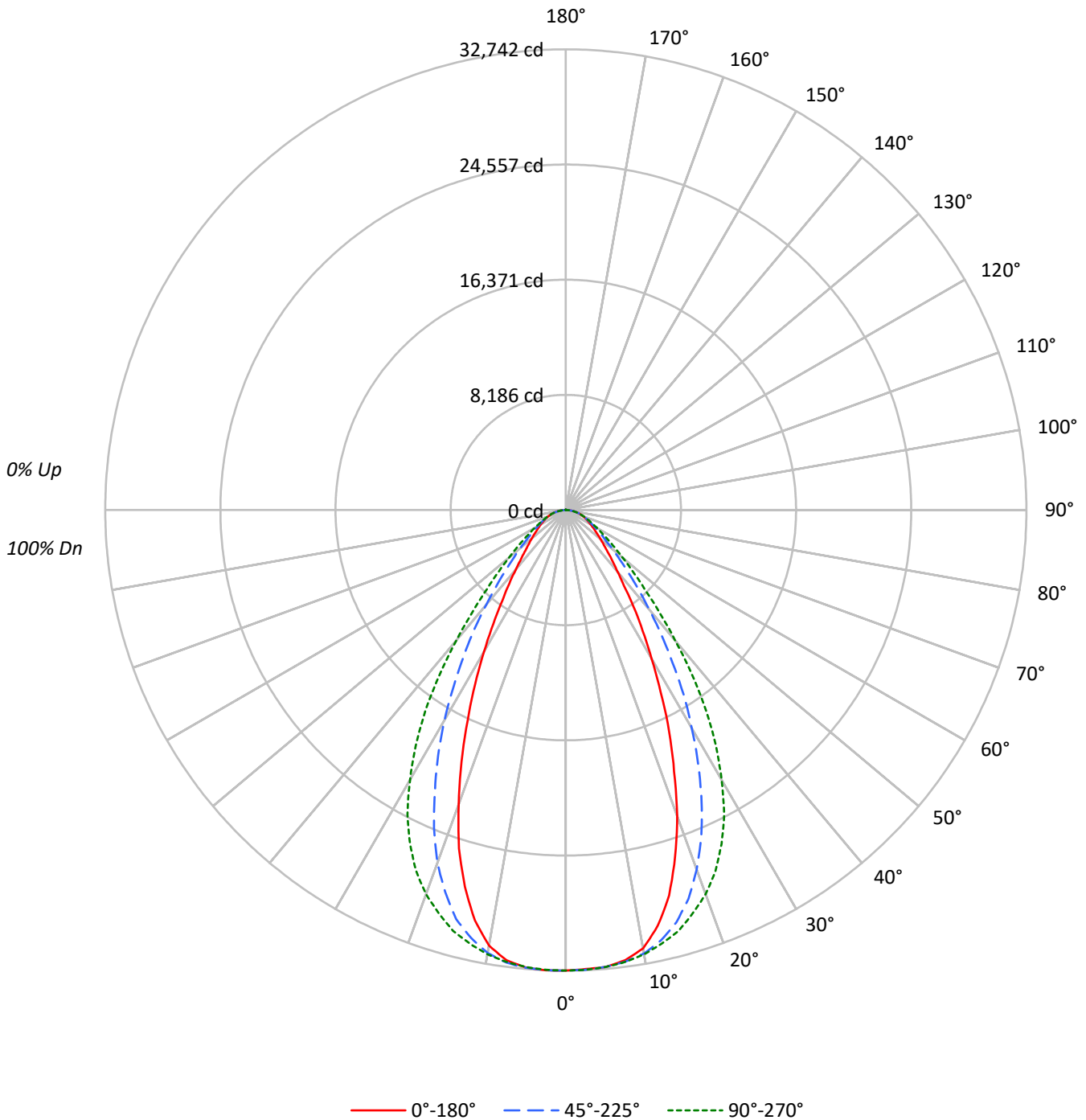
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 40659.4 lumens  
Efficiency: N/A  
Efficacy: 181.2 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): 224.4  
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: P1433002  
CATALOG NUMBER: EHBR1-42-UNV-A1-L850

### Luminous Intensity Polar Plot





TEST NUMBER: P1433002  
 CATALOG NUMBER: EHBR1-42-UNV-A1-L850

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

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

	0°	45°	90°	135°	180°
0°	153697	153697	153697	153697	153697
5°	153677	153654	153660	153932	153838
10°	150864	152622	152865	152433	149877
15°	137883	147504	150540	146321	134717
20°	115707	135894	145178	133335	111202
25°	90147	118374	135679	114051	85477
30°	66235	97173	120137	93486	62868
35°	48164	75555	99601	72301	45020
40°	34992	56352	74123	53974	33912
45°	27884	41692	52355	39885	26919
50°	23443	31741	38397	30695	23087
55°	20805	25469	29549	25043	20524
60°	19148	21697	24027	21562	19282
65°	18396	19659	20741	19720	18570
70°	18146	18579	19154	18683	18326
75°	17961	17849	17961	17898	18135
80°	18057	16756	16389	17019	18057
85°	16288	13815	13664	14036	16768

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 54854 cd/sqm



TEST NUMBER: P1433002  
 CATALOG NUMBER: EHBR1-42-UNV-A1-L850

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	3090.7	7.6
10°-20°	8306.7	20.4
20°-30°	10100.9	24.8
30°-40°	8228.0	20.2
40°-50°	4940.1	12.1
50°-60°	2843.0	7.0
60°-70°	1779.3	4.4
70°-80°	1047.9	2.6
80°-90°	306.5	0.8
90°-100°	0.1	0.0
100°-110°	0.2	0.0
110°-120°	0.2	0.0
120°-130°	0.5	0.0
130°-140°	2.1	0.0
140°-150°	3.8	0.0
150°-160°	4.2	0.0
160°-170°	3.7	0.0
170°-180°	1.6	0.0
0°-30°	21498.4	52.9
0°-40°	29726.4	73.1
0°-60°	37509.5	92.3
0°-90°	40643.1	100.0
90°-120°	0.5	0.0
90°-150°	6.9	0.0
90°-180°	16.0	0.0
0°-180°	40659.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	32729	32729	32729	32729	32729	
5°	32600	32595	32596	32654	32634	3081
15°	28361	30340	30964	30096	27710	7802
25°	17398	22845	26185	22011	16496	7927
35°	8401	13179	17374	12612	7853	5315
45°	4199	6278	7883	6006	4053	3312
55°	2541	3111	3609	3059	2507	2297
65°	1656	1769	1867	1775	1671	1646
75°	990	984	990	986	1000	1048
85°	302	256	254	260	311	323
90°	1	0	0	0	1	15
95°	1	0	0	0	1	1
105°	1	0	0	0	1	1
115°	1	0	0	0	1	2
125°	2	0	0	1	2	2
135°	3	3	3	3	3	3
145°	6	6	6	6	7	4
155°	10	8	7	9	11	5
165°	16	13	12	14	16	4
175°	20	18	15	18	20	2
180°	18	18	18	18	18	



TEST NUMBER: P1433002  
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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	32728.7	32728.7	32728.7	32728.7	32728.7	32728.7	32728.7	32728.7	32728.7
2.5°	32656.7	32686.1	32698.5	32705.3	32712.8	32733.5	32742.3	32728.0	32740.3
5°	32599.8	32601.8	32595.0	32625.8	32596.3	32616.9	32653.9	32639.6	32634.1
7.5°	32268.0	32336.5	32377.0	32387.2	32392.7	32418.2	32444.2	32296.7	32274.8
10°	31637.3	31751.9	32006.1	32078.8	32056.9	32098.0	31966.4	31581.1	31430.4
12.5°	30254.7	30657.1	31317.9	31612.0	31558.5	31594.8	31146.6	30333.5	29866.0
15°	28360.7	28950.9	30339.7	30919.7	30964.2	30919.7	30096.4	28512.2	27709.5
17.5°	25842.9	26932.8	28977.7	30103.2	30038.7	30060.0	28497.1	26155.5	25237.0
20°	23153.0	24315.0	27192.6	29070.2	29050.3	28931.0	26680.5	23592.5	22251.6
22.5°	20110.8	21609.3	25147.2	27800.0	27792.4	27593.7	24468.5	20793.6	19349.9
25°	17397.7	18867.3	22845.3	26243.9	26185.0	25958.8	22011.0	18001.6	16496.3
27.5°	14592.7	16120.6	20387.8	24420.6	24380.1	24133.3	19661.8	15392.0	13959.3
30°	12214.7	13611.7	17920.0	22414.1	22155.0	22126.9	17240.1	12975.6	11593.7
32.5°	10177.4	11375.0	15593.5	20315.8	19857.2	19988.1	14826.4	10954.8	9585.2
35°	8401.3	9456.3	13179.2	17889.2	17373.7	17543.0	12611.7	8988.8	7853.0
37.5°	6818.5	7833.1	11133.0	15529.1	14740.8	15060.1	10663.5	7506.7	6596.4
40°	5708.0	6512.8	9192.4	12939.2	12091.3	12611.7	8804.5	6261.3	5531.9
42.5°	4918.4	5443.4	7587.0	10466.7	9816.2	10185.0	7256.5	5234.4	4688.7
45°	4198.6	4617.5	6277.7	8259.5	7883.2	8225.2	6005.6	4463.2	4053.3
47.5°	3667.3	3990.2	5167.9	6669.8	6436.0	6544.4	5015.7	3894.9	3561.8
50°	3208.8	3458.3	4344.6	5383.1	5255.6	5322.1	4201.4	3389.0	3160.1
52.5°	2852.3	3035.3	3644.0	4424.2	4361.1	4371.3	3580.3	2981.2	2815.3
55°	2541.1	2668.6	3110.7	3624.2	3609.1	3611.8	3058.7	2641.9	2506.8
57.5°	2269.0	2374.5	2673.4	3044.2	3022.3	3027.2	2648.8	2346.4	2259.4
60°	2038.7	2109.3	2310.1	2572.6	2558.2	2552.1	2295.7	2083.2	2053.0
62.5°	1834.3	1879.6	2018.7	2205.3	2177.8	2183.9	2018.0	1881.7	1837.1
65°	1655.5	1671.2	1769.2	1884.4	1866.6	1881.7	1774.7	1681.5	1671.2
67.5°	1480.6	1496.4	1554.0	1631.5	1610.9	1623.3	1555.4	1500.6	1491.6
70°	1321.6	1320.9	1353.1	1395.0	1395.0	1397.0	1360.7	1327.8	1334.7
72.5°	1157.1	1153.0	1162.6	1190.6	1183.2	1209.2	1170.8	1160.5	1161.9
75°	989.9	978.2	983.7	998.1	989.9	1003.5	986.4	999.5	999.5
77.5°	832.2	810.2	803.4	805.5	790.4	810.9	815.0	824.0	844.5
80°	667.7	636.8	619.6	618.9	606.0	618.9	629.3	647.8	667.7
82.5°	495.6	468.9	440.1	434.6	426.4	433.9	447.6	469.5	501.8
85°	302.3	274.2	256.4	246.8	253.6	253.6	260.5	291.4	311.2
87.5°	109.0	95.3	78.2	78.9	80.8	83.6	87.0	109.7	119.9
90°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
92.5°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
95°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
97.5°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
100°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
102.5°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
105°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
107.5°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
110°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4



TEST NUMBER: P1433002  
 CATALOG NUMBER: EHBR1-42-UNV-A1-L850

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
115°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
117.5°	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
120°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.4
122.5°	2.1	0.7	0.0	0.0	0.0	0.0	0.0	0.7	2.1
125°	2.1	0.7	0.0	0.0	0.0	0.0	0.7	0.7	2.1
127.5°	2.1	0.7	0.0	0.0	0.0	0.0	0.7	1.4	2.1
130°	2.1	1.4	0.7	0.0	0.7	0.7	1.4	1.4	2.1
132.5°	2.8	2.1	2.1	1.4	1.4	2.1	2.1	2.8	2.8
135°	3.4	2.8	2.8	2.1	2.8	2.8	2.8	2.8	3.4
137.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	4.1
140°	4.8	4.1	4.1	4.1	4.1	4.1	4.1	4.8	4.8
142.5°	5.5	5.5	4.8	4.8	4.8	5.5	5.5	5.5	6.2
145°	6.2	6.2	5.5	5.5	5.5	6.2	6.2	6.9	6.9
147.5°	8.3	7.6	6.2	6.2	6.2	6.2	6.9	7.6	8.3
150°	8.9	8.3	6.9	6.9	6.9	6.9	7.6	8.9	9.6
152.5°	9.6	8.9	7.6	6.9	6.9	6.9	8.3	8.9	10.3
155°	10.3	9.6	8.3	6.9	6.9	7.6	8.9	10.3	11.0
157.5°	12.4	11.0	9.6	8.3	8.3	8.9	10.3	11.7	12.4
160°	13.8	12.4	11.0	9.6	9.6	10.3	11.7	13.1	13.8
162.5°	15.1	13.8	11.7	11.0	10.3	11.0	12.4	14.4	15.1
165°	15.8	14.4	13.1	11.7	11.7	11.7	13.8	15.1	15.8
167.5°	16.4	15.8	13.8	12.4	12.4	12.4	14.4	15.8	16.4
170°	17.1	16.4	14.4	13.1	12.4	13.1	15.1	16.4	17.1
172.5°	18.5	17.8	15.8	14.4	13.8	14.4	16.4	17.8	18.5
175°	20.5	19.2	17.8	15.8	15.1	15.8	17.8	19.2	20.5
177.5°	21.2	19.8	18.5	16.4	15.8	16.4	18.5	19.8	21.2
180°	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5



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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	19.88	21.14	20.24	21.46	21.77	20.86	22.13	21.23	22.44	22.76
	3H	21.45	22.57	21.83	22.90	23.27	22.20	23.33	22.58	23.66	24.03
	4H	22.11	23.16	22.52	23.52	23.90	22.76	23.81	23.17	24.16	24.55
	6H	22.67	23.63	23.08	24.00	24.40	23.19	24.16	23.61	24.53	24.92
	8H	22.87	23.78	23.30	24.17	24.58	23.33	24.24	23.76	24.64	25.04
	12H	23.00	23.87	23.43	24.25	24.68	23.41	24.28	23.84	24.66	25.10
4H	2H	20.45	21.50	20.85	21.85	22.24	21.22	22.27	21.62	22.62	23.01
	3H	22.24	23.10	22.66	23.51	23.91	22.81	23.67	23.22	24.08	24.48
	4H	23.04	23.81	23.47	24.23	24.68	23.51	24.28	23.94	24.70	25.15
	6H	23.72	24.39	24.19	24.84	25.30	24.08	24.75	24.54	25.19	25.66
	8H	23.97	24.59	24.44	25.04	25.51	24.26	24.89	24.73	25.33	25.81
	12H	24.14	24.69	24.63	25.17	25.65	24.38	24.93	24.87	25.42	25.89
8H	4H	23.32	23.94	23.79	24.39	24.86	23.74	24.36	24.21	24.81	25.28
	6H	24.14	24.64	24.64	25.14	25.62	24.44	24.95	24.94	25.45	25.93
	8H	24.46	24.92	24.99	25.44	25.93	24.70	25.16	25.23	25.67	26.17
	12H	24.72	25.12	25.23	25.61	26.19	24.89	25.29	25.41	25.79	26.36
12H	4H	23.33	23.88	23.82	24.37	24.84	23.75	24.30	24.24	24.79	25.26
	6H	24.18	24.64	24.71	25.15	25.65	24.48	24.94	25.01	25.46	25.95
	8H	24.57	24.97	25.09	25.46	26.04	24.80	25.20	25.32	25.70	26.27

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



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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-4

Test Date: 07/31/2025

Luminaire Tested: EHBR-60-L850-N

Data in this report applies to families of products including EHBR-60-L850-N

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2506-472-4  
 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-L850-N**  
 Description: Elevate Round Highbay at, 60000 lumens, 5000K 80CRI LEDs with N lens

**Spectral Parameters**

CCT (K): 4875  
 CIE u': 0.2124  
 CIE v': 0.4871  
 Duv: 0.0005  
 CIE x: 0.3488  
 CIE y: 0.3555  
 CIE z: 0.2957  
 Peak Wavelength (nm): 630  
 Dominant Wavelength (nm): 573  
 Purity: 11.33556  
 Rf: 80  
 Rg: 102.3

CRI (Ra):	82.3		
R1:	85.0	R9:	43.9
R2:	83.1	R10:	57.4
R3:	78.8	R11:	83.1
R4:	84.0	R12:	51.0
R5:	83.0	R13:	83.4
R6:	76.3	R14:	87.4
R7:	86.8	R15:	83.4
R8:	81.7		



**Test Conditions**

Stabilization Time: 39M  
 Operation Time: 1H 39M  
 Sphere Temperature (°C): 25.0

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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 5000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	89	NR	620	280	NR	750	6	NR	880	0	NR
365	0	NR	495	121	NR	625	280	NR	755	5	NR	885	0	NR
370	0	NR	500	168	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	224	NR	635	626	NR	765	4	NR	895	0	NR
380	1	NR	510	275	NR	640	163	NR	770	4	NR	900	0	NR
385	2	NR	515	321	NR	645	160	NR	775	3	NR	905	0	NR
390	3	NR	520	354	NR	650	136	NR	780	3	NR	910	0	NR
395	5	NR	525	375	NR	655	111	NR	785	2	NR	915	0	NR
400	7	NR	530	388	NR	660	93	NR	790	2	NR	920	0	NR
405	10	NR	535	395	NR	665	76	NR	795	2	NR	925	0	NR
410	15	NR	540	397	NR	670	72	NR	800	2	NR	930	0	NR
415	28	NR	545	398	NR	675	57	NR	805	1	NR	935	0	NR
420	53	NR	550	396	NR	680	49	NR	810	1	NR	940	0	NR
425	97	NR	555	395	NR	685	42	NR	815	1	NR	945	0	NR
430	163	NR	560	392	NR	690	37	NR	820	1	NR	950	0	NR
435	261	NR	565	388	NR	695	32	NR	825	1	NR	955	0	NR
440	409	NR	570	381	NR	700	27	NR	830	1	NR	960	0	NR
445	637	NR	575	374	NR	705	23	NR	835	1	NR	965	0	NR
450	699	NR	580	365	NR	710	20	NR	840	1	NR	970	0	NR
455	436	NR	585	354	NR	715	17	NR	845	0	NR	975	0	NR
460	274	NR	590	342	NR	720	15	NR	850	0	NR	980	0	NR
465	205	NR	595	325	NR	725	13	NR	855	0	NR	985	0	NR
470	130	NR	600	313	NR	730	11	NR	860	0	NR	990	0	NR
475	90	NR	605	301	NR	735	10	NR	865	0	NR	995	0	NR
480	78	NR	610	323	NR	740	8	NR	870	0	NR	1000	0	NR
485	77	NR	615	340	NR	745	7	NR	875	0	NR			

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.82**

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	89	NR	620	280	NR	750	6	NR	880	0	NR
365	0	NR	495	121	NR	625	280	NR	755	5	NR	885	0	NR
370	0	NR	500	168	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	224	NR	635	626	NR	765	4	NR	895	0	NR
380	1	NR	510	275	NR	640	163	NR	770	4	NR	900	0	NR
385	2	NR	515	321	NR	645	160	NR	775	3	NR	905	0	NR
390	3	NR	520	354	NR	650	136	NR	780	3	NR	910	0	NR
395	5	NR	525	375	NR	655	111	NR	785	2	NR	915	0	NR
400	7	NR	530	388	NR	660	93	NR	790	2	NR	920	0	NR
405	10	NR	535	395	NR	665	76	NR	795	2	NR	925	0	NR
410	15	NR	540	397	NR	670	72	NR	800	2	NR	930	0	NR
415	28	NR	545	398	NR	675	57	NR	805	1	NR	935	0	NR
420	53	NR	550	396	NR	680	49	NR	810	1	NR	940	0	NR
425	97	NR	555	395	NR	685	42	NR	815	1	NR	945	0	NR
430	163	NR	560	392	NR	690	37	NR	820	1	NR	950	0	NR
435	261	NR	565	388	NR	695	32	NR	825	1	NR	955	0	NR
440	409	NR	570	381	NR	700	27	NR	830	1	NR	960	0	NR
445	637	NR	575	374	NR	705	23	NR	835	1	NR	965	0	NR
450	699	NR	580	365	NR	710	20	NR	840	1	NR	970	0	NR
455	436	NR	585	354	NR	715	17	NR	845	0	NR	975	0	NR
460	274	NR	590	342	NR	720	15	NR	850	0	NR	980	0	NR
465	205	NR	595	325	NR	725	13	NR	855	0	NR	985	0	NR
470	130	NR	600	313	NR	730	11	NR	860	0	NR	990	0	NR
475	90	NR	605	301	NR	735	10	NR	865	0	NR	995	0	NR
480	78	NR	610	323	NR	740	8	NR	870	0	NR	1000	0	NR
485	77	NR	615	340	NR	745	7	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.71

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	89	NR	620	280	NR	750	6	NR	880	0	NR
365	0	NR	495	121	NR	625	280	NR	755	5	NR	885	0	NR
370	0	NR	500	168	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	224	NR	635	626	NR	765	4	NR	895	0	NR
380	1	NR	510	275	NR	640	163	NR	770	4	NR	900	0	NR
385	2	NR	515	321	NR	645	160	NR	775	3	NR	905	0	NR
390	3	NR	520	354	NR	650	136	NR	780	3	NR	910	0	NR
395	5	NR	525	375	NR	655	111	NR	785	2	NR	915	0	NR
400	7	NR	530	388	NR	660	93	NR	790	2	NR	920	0	NR
405	10	NR	535	395	NR	665	76	NR	795	2	NR	925	0	NR
410	15	NR	540	397	NR	670	72	NR	800	2	NR	930	0	NR
415	28	NR	545	398	NR	675	57	NR	805	1	NR	935	0	NR
420	53	NR	550	396	NR	680	49	NR	810	1	NR	940	0	NR
425	97	NR	555	395	NR	685	42	NR	815	1	NR	945	0	NR
430	163	NR	560	392	NR	690	37	NR	820	1	NR	950	0	NR
435	261	NR	565	388	NR	695	32	NR	825	1	NR	955	0	NR
440	409	NR	570	381	NR	700	27	NR	830	1	NR	960	0	NR
445	637	NR	575	374	NR	705	23	NR	835	1	NR	965	0	NR
450	699	NR	580	365	NR	710	20	NR	840	1	NR	970	0	NR
455	436	NR	585	354	NR	715	17	NR	845	0	NR	975	0	NR
460	274	NR	590	342	NR	720	15	NR	850	0	NR	980	0	NR
465	205	NR	595	325	NR	725	13	NR	855	0	NR	985	0	NR
470	130	NR	600	313	NR	730	11	NR	860	0	NR	990	0	NR
475	90	NR	605	301	NR	735	10	NR	865	0	NR	995	0	NR
480	78	NR	610	323	NR	740	8	NR	870	0	NR	1000	0	NR
485	77	NR	615	340	NR	745	7	NR	875	0	NR			

**Summary**

$R_f = 80$   
 $R_g = 102.3$   
 $CIE R_a = 82.3$   
 $R_9 = 43.9$



**Color Vector Graphics**

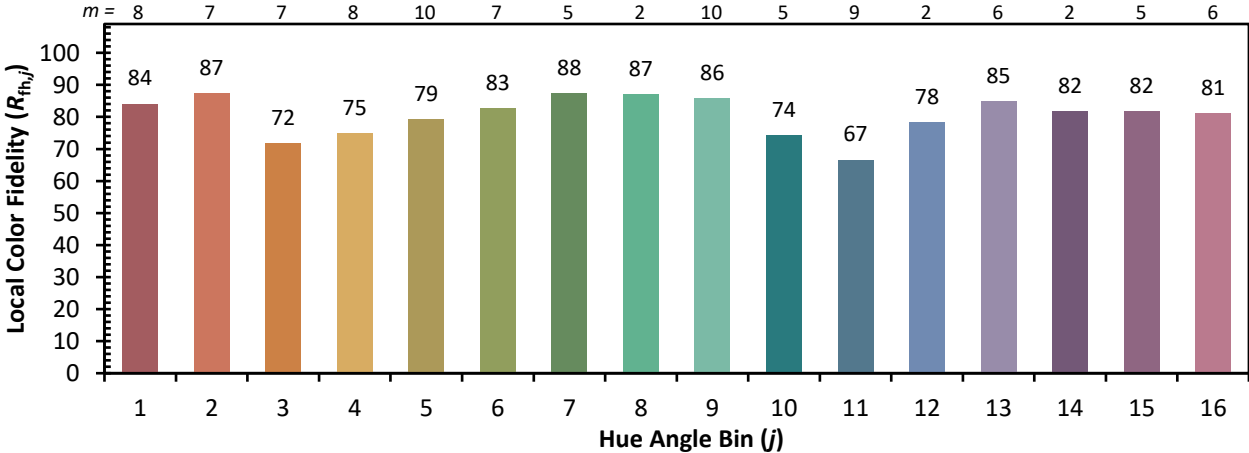


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 85	CES26 = 67	CES51 = 92	CES76 = 54
CES02 = 60	CES27 = 88	CES52 = 91	CES77 = 71
CES03 = 31	CES28 = 81	CES53 = 82	CES78 = 55
CES04 = 69	CES29 = 66	CES54 = 92	CES79 = 81
CES05 = 47	CES30 = 80	CES55 = 90	CES80 = 75
CES06 = 50	CES31 = 69	CES56 = 81	CES81 = 79
CES07 = 40	CES32 = 61	CES57 = 80	CES82 = 90
CES08 = 39	CES33 = 76	CES58 = 81	CES83 = 87
CES09 = 29	CES34 = 68	CES59 = 93	CES84 = 87
CES10 = 73	CES35 = 82	CES60 = 94	CES85 = 82
CES11 = 56	CES36 = 95	CES61 = 91	CES86 = 83
CES12 = 62	CES37 = 75	CES62 = 89	CES87 = 78
CES13 = 42	CES38 = 87	CES63 = 80	CES88 = 85
CES14 = 74	CES39 = 94	CES64 = 79	CES89 = 81
CES15 = 71	CES40 = 87	CES65 = 75	CES90 = 86
CES16 = 46	CES41 = 91	CES66 = 72	CES91 = 80
CES17 = 48	CES42 = 71	CES67 = 69	CES92 = 77
CES18 = 56	CES43 = 72	CES68 = 75	CES93 = 86
CES19 = 70	CES44 = 99	CES69 = 80	CES94 = 71
CES20 = 65	CES45 = 81	CES70 = 66	CES95 = 79
CES21 = 85	CES46 = 83	CES71 = 59	CES96 = 86
CES22 = 77	CES47 = 83	CES72 = 87	CES97 = 85
CES23 = 91	CES48 = 83	CES73 = 56	CES98 = 82
CES24 = 90	CES49 = 82	CES74 = 95	CES99 = 84
CES25 = 71	CES50 = 91	CES75 = 58	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)