

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: P1433064

Luminaire Tested: EHBR1-54-UNV-A1-L850-UPL36

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: P1433064
REPORT IS A COMBINATION OF REPORTS P1431865 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-54-UNV-A1-L850-UPL36
Description: Elevate Round Highbay at, 55000 lumens, 5000K 80CRI LEDs with A lens
Light Source: -
Ballast/Driver: -

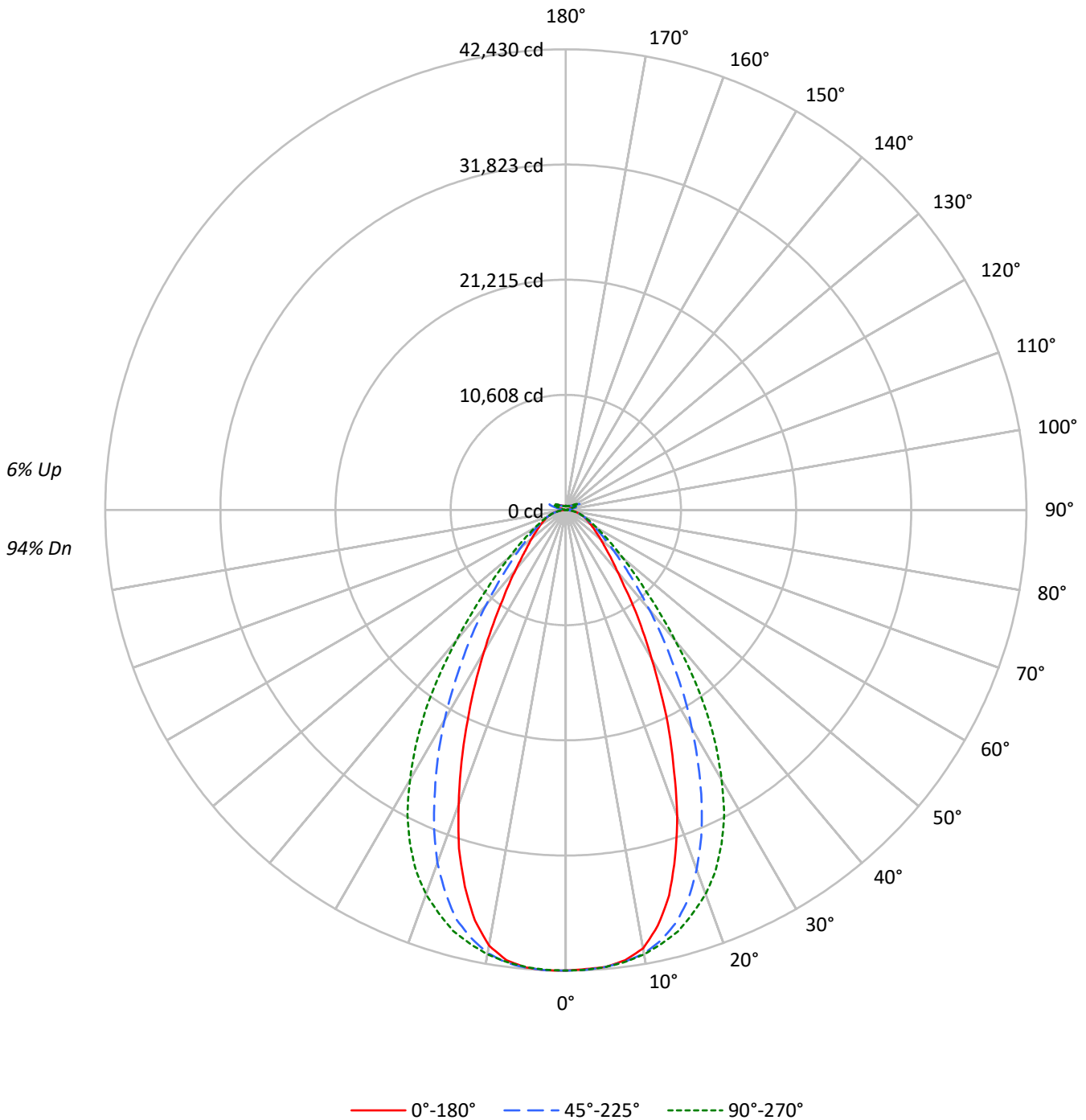
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 56306.4 lumens
Efficiency: N/A
Efficacy: 173.6 lumens/watt
Spacing Criteria (0/90/45): 0.8 / 1.07 / 0.95
Luminous Opening: Vertical Cylinder (Dia: 1.71' x H: 0.1')
CIE Type: Direct

Input Watts (W): 324.4
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: P1433064
CATALOG NUMBER: EHBR1-54-UNV-A1-L850-UPL36

Luminous Intensity Polar Plot





TEST NUMBER: P1433064
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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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	96	96	96	94
1	110	106	103	100	107	104	101	98	98	96	94	93	92	90	89	88	86	86	86	86	84
2	103	97	91	87	100	94	90	86	90	86	83	86	83	80	82	80	77	77	77	77	75
3	96	88	82	77	93	86	80	76	82	78	74	79	75	72	76	72	70	70	70	70	68
4	90	80	74	68	87	79	73	68	76	70	66	73	68	65	70	66	63	63	63	63	61
5	84	74	67	62	82	73	66	61	70	64	60	67	63	59	65	61	58	58	58	58	56
6	79	68	61	56	77	67	60	56	65	59	55	63	58	54	61	56	53	53	53	53	51
7	74	63	56	51	72	62	56	51	60	54	50	59	53	49	57	52	49	49	49	49	47
8	70	59	52	47	68	58	51	47	56	50	46	55	49	46	53	49	45	45	45	45	43
9	66	55	48	44	65	54	48	43	53	47	43	51	46	42	50	45	42	42	42	42	40
10	63	52	45	41	61	51	45	40	50	44	40	48	43	39	47	42	39	39	39	39	38

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	199173	199173	199173	199173	199173
5°	197856	197827	197835	198184	198064
10°	192966	195214	195524	194973	191703
15°	175181	187405	191263	185902	171159
20°	145982	171452	183165	168223	140298
25°	112896	148247	169919	142833	107047
30°	82292	120729	149261	116147	78108
35°	59319	93054	122669	89046	55446
40°	42676	68728	90402	65826	41359
45°	33628	50280	63138	48101	32464
50°	27901	37778	45699	36532	27477
55°	24367	29830	34608	29330	24039
60°	21975	24902	27577	24747	22131
65°	20552	21965	23175	22034	20749
70°	19518	19984	20602	20096	19711
75°	18209	18095	18209	18146	18386
80°	16447	15264	14928	15502	16447
85°	11397	9665	9564	9820	11734

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 66153 cd/sqm



TEST NUMBER: P1433064
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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4005.2	7.1
10°-20°	10764.5	19.1
20°-30°	13089.6	23.2
30°-40°	10662.4	18.9
40°-50°	6401.7	11.4
50°-60°	3684.3	6.5
60°-70°	2305.7	4.1
70°-80°	1358.0	2.4
80°-90°	403.5	0.7
90°-100°	95.4	0.2
100°-110°	630.7	1.1
110°-120°	1166.6	2.1
120°-130°	692.5	1.2
130°-140°	419.2	0.7
140°-150°	291.2	0.5
150°-160°	190.4	0.3
160°-170°	109.2	0.2
170°-180°	36.3	0.1
0°-30°	27859.3	49.5
0°-40°	38521.7	68.4
0°-60°	48607.7	86.3
0°-90°	52675.0	93.6
90°-120°	1892.7	3.4
90°-150°	3295.6	5.9
90°-180°	3631.0	6.4
0°-180°	56306.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	42412	42412	42412	42412	42412	
5°	42245	42239	42241	42316	42290	3993
15°	36752	39317	40126	39001	35908	10111
25°	22545	29605	33933	28524	21377	10272
35°	10887	17079	22514	16343	10176	6888
45°	5441	8135	10216	7782	5253	4292
55°	3293	4031	4677	3964	3249	2977
65°	2145	2293	2419	2300	2166	2133
75°	1283	1275	1283	1278	1295	1359
85°	392	332	329	338	403	418
90°	28	72	26	76	27	32
95°	46	163	50	139	45	44
105°	221	1103	289	1175	144	295
115°	1010	1304	1242	1443	1059	931
125°	730	697	794	772	830	665
135°	535	536	502	560	579	418
145°	444	463	455	468	477	282
155°	395	406	405	407	426	184
165°	378	385	381	381	394	108
175°	380	383	379	379	388	36
180°	382	382	382	382	382	



TEST NUMBER: P1433064
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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	42412.4	42412.4	42412.4	42412.4	42412.4	42412.4	42412.4	42412.4	42412.4
2.5°	42319.1	42357.3	42373.3	42382.1	42391.9	42418.6	42430.1	42411.5	42427.4
5°	42245.3	42248.0	42239.1	42279.1	42240.9	42267.6	42315.5	42296.9	42289.8
7.5°	41815.4	41904.2	41956.6	41969.9	41977.0	42009.9	42043.7	41852.7	41824.3
10°	40998.2	41146.5	41476.0	41570.2	41541.8	41595.1	41424.6	40925.3	40729.9
12.5°	39206.4	39727.8	40584.2	40965.2	40896.0	40943.0	40362.1	39308.6	38702.7
15°	36752.1	37516.9	39316.6	40068.1	40125.9	40068.1	39001.2	36948.3	35908.2
17.5°	33489.3	34901.7	37551.5	39010.1	38926.6	38954.2	36928.8	33894.4	32704.0
20°	30003.6	31509.2	35238.3	37671.4	37645.7	37491.1	34574.8	30572.9	28835.4
22.5°	26061.2	28003.1	32587.6	36025.4	36015.6	35758.0	31708.3	26946.0	25075.2
25°	22545.3	24449.8	29604.7	34008.9	33932.6	33639.4	28523.6	23327.9	21377.2
27.5°	18910.4	20890.4	26420.1	31646.1	31593.6	31273.8	25479.4	19946.1	18089.5
30°	15828.8	17639.2	23222.2	29045.9	28710.2	28673.7	22340.9	16814.8	15024.0
32.5°	13188.8	14740.6	20207.3	26326.8	25732.5	25902.2	19213.2	14196.1	12421.2
35°	10887.1	12254.2	17078.7	23182.2	22514.2	22733.7	16343.1	11648.4	10176.4
37.5°	8836.0	10150.7	14427.0	20123.8	19102.2	19516.1	13818.5	9727.9	8548.2
40°	7396.9	8439.8	11912.3	16767.8	15668.9	16343.1	11409.4	8113.8	7168.6
42.5°	6373.7	7054.1	9831.8	13563.6	12720.6	13198.5	9403.7	6783.2	6076.0
45°	5440.9	5983.7	8135.1	10703.2	10215.5	10658.8	7782.5	5783.8	5252.6
47.5°	4752.5	5170.8	6696.9	8643.3	8340.3	8480.7	6499.8	5047.4	4615.6
50°	4158.2	4481.5	5630.2	6975.9	6810.7	6896.8	5444.5	4391.8	4095.1
52.5°	3696.3	3933.4	4722.2	5733.2	5651.5	5664.7	4639.6	3863.3	3648.3
55°	3293.0	3458.2	4031.2	4696.5	4676.9	4680.5	3963.7	3423.5	3248.6
57.5°	2940.3	3077.2	3464.4	3945.0	3916.5	3922.8	3432.5	3040.7	2927.8
60°	2641.8	2733.3	2993.6	3333.8	3315.2	3307.2	2975.0	2699.6	2660.5
62.5°	2377.1	2435.7	2616.1	2857.7	2822.1	2830.2	2615.2	2438.4	2380.7
65°	2145.2	2165.7	2292.7	2442.0	2418.9	2438.4	2299.9	2179.0	2165.7
67.5°	1918.7	1939.2	2013.8	2114.2	2087.5	2103.5	2015.6	1944.5	1933.0
70°	1712.6	1711.8	1753.5	1807.7	1807.7	1810.4	1763.3	1720.7	1729.5
72.5°	1499.5	1494.2	1506.6	1543.0	1533.2	1567.0	1517.3	1503.9	1505.7
75°	1282.7	1267.7	1274.7	1293.4	1282.7	1300.5	1278.3	1295.2	1295.2
77.5°	1078.4	1050.0	1041.1	1043.8	1024.2	1050.9	1056.2	1067.8	1094.4
80°	865.2	825.2	803.0	802.1	785.3	802.1	815.5	839.5	865.2
82.5°	642.2	607.7	570.3	563.2	552.5	562.3	580.0	608.5	650.3
85°	391.7	355.3	332.2	319.8	328.7	328.7	337.5	377.5	403.3
87.5°	141.3	123.5	101.3	102.2	104.8	108.3	112.8	142.1	155.5
90°	27.9	42.2	72.3	46.2	26.1	44.2	76.3	40.2	27.0
92.5°	39.1	64.3	116.5	60.3	34.2	60.3	108.5	54.2	37.0
95°	46.0	74.4	162.8	80.4	50.2	74.4	138.6	60.3	45.1
97.5°	58.1	82.4	186.8	98.4	78.4	92.4	156.7	64.3	55.1
100°	76.1	96.5	291.4	120.5	104.5	104.5	287.3	74.4	64.0
102.5°	128.4	204.9	618.8	227.0	158.7	204.9	667.1	150.7	78.1
105°	220.7	432.0	1103.0	476.2	289.3	470.1	1175.4	393.8	144.4
107.5°	381.5	773.6	1454.7	843.9	548.5	878.0	1514.9	779.6	339.3
110°	711.0	1026.7	1525.0	1159.3	878.0	1227.6	1653.6	1068.9	688.9



TEST NUMBER: P1433064
 CATALOG NUMBER: EHBR1-54-UNV-A1-L850-UPL36

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	960.2	1103.0	1460.7	1279.8	1143.2	1368.2	1615.4	1185.4	954.1
115°	1010.4	1060.9	1304.0	1249.7	1241.7	1348.2	1442.6	1181.4	1058.6
117.5°	977.1	968.4	1107.1	1123.2	1199.5	1233.7	1245.7	1109.1	1064.6
120°	903.9	862.0	924.2	980.5	1083.0	1068.9	1048.8	1003.5	1004.4
122.5°	814.3	764.4	791.6	833.8	936.3	906.2	886.0	895.0	922.9
125°	729.9	679.9	697.2	707.3	793.6	763.5	772.4	802.5	830.4
127.5°	655.7	621.7	630.9	618.8	673.1	659.0	690.1	725.0	748.0
130°	605.4	576.4	589.6	560.6	587.6	591.5	632.7	660.8	675.7
132.5°	564.1	545.2	561.2	526.1	534.2	551.2	589.4	614.3	622.4
135°	534.9	517.9	535.9	502.9	501.9	525.9	560.1	576.1	579.1
137.5°	508.7	494.7	512.8	488.6	482.6	506.7	532.8	544.9	541.7
140°	486.4	473.5	493.5	475.4	471.4	495.6	507.6	522.6	518.6
142.5°	461.2	453.1	476.3	464.3	460.3	483.3	489.3	499.3	496.2
145°	444.0	437.9	463.2	457.2	455.1	472.1	468.1	483.0	477.0
147.5°	430.6	425.6	447.9	446.0	446.0	458.0	452.8	465.8	460.8
150°	417.5	412.6	434.8	432.8	434.8	442.8	435.7	451.6	450.5
152.5°	404.3	399.4	419.6	416.7	418.8	426.7	420.6	437.5	437.3
155°	395.1	390.2	406.5	404.6	404.6	409.5	407.4	425.2	426.1
157.5°	389.7	385.9	398.2	396.5	396.5	399.4	399.1	414.9	415.8
160°	385.5	381.7	391.9	390.2	388.2	393.1	392.8	406.7	407.6
162.5°	381.2	377.4	388.8	385.9	385.1	385.9	385.7	400.4	401.3
165°	378.1	376.3	384.6	382.8	380.8	382.8	381.4	391.3	394.1
167.5°	379.0	376.0	383.5	381.7	379.7	377.7	380.3	388.1	391.1
170°	377.8	376.9	382.3	378.6	375.6	376.5	377.2	385.0	387.9
172.5°	379.6	378.7	384.1	380.3	377.4	378.3	376.9	382.7	387.6
175°	380.2	378.5	382.7	380.1	379.2	378.1	378.7	382.5	388.3
177.5°	383.1	381.3	383.6	380.9	378.1	379.0	381.6	385.4	393.2
180°	381.6	381.6	381.6	381.6	381.6	381.6	381.6	381.6	381.6



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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	19.79	20.95	20.27	21.40	21.88	20.77	21.93	21.25	22.38	22.86
	3H	21.27	22.30	21.76	22.76	23.29	22.04	23.07	22.53	23.53	24.05
	4H	21.87	22.83	22.39	23.31	23.85	22.53	23.50	23.05	23.98	24.52
	6H	22.34	23.22	22.86	23.72	24.27	22.89	23.77	23.42	24.27	24.82
	8H	22.48	23.32	23.02	23.84	24.40	22.99	23.82	23.53	24.34	24.90
	12H	22.56	23.36	23.10	23.87	24.45	23.02	23.83	23.57	24.33	24.92
4H	2H	20.31	21.27	20.83	21.75	22.29	21.09	22.05	21.61	22.53	23.07
	3H	21.99	22.79	22.52	23.31	23.87	22.58	23.37	23.10	23.90	24.46
	4H	22.71	23.42	23.25	23.96	24.56	23.20	23.91	23.75	24.45	25.05
	6H	23.29	23.90	23.86	24.47	25.08	23.68	24.29	24.25	24.86	25.47
	8H	23.48	24.05	24.05	24.61	25.23	23.81	24.39	24.39	24.95	25.57
	12H	23.58	24.09	24.18	24.68	25.31	23.88	24.39	24.47	24.98	25.60
8H	4H	22.93	23.51	23.51	24.07	24.69	23.38	23.95	23.96	24.52	25.14
	6H	23.62	24.09	24.23	24.70	25.33	23.96	24.43	24.57	25.04	25.67
	8H	23.88	24.29	24.50	24.92	25.56	24.16	24.58	24.78	25.20	25.84
	12H	24.04	24.41	24.66	25.01	25.73	24.28	24.64	24.90	25.25	25.96
12H	4H	22.93	23.44	23.53	24.04	24.66	23.38	23.88	23.97	24.48	25.10
	6H	23.65	24.07	24.27	24.69	25.33	23.98	24.40	24.61	25.02	25.66
	8H	23.94	24.31	24.56	24.91	25.63	24.22	24.59	24.84	25.19	25.90

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

REPORT NUMBER: SP1-2506-472-4

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

REPORT NUMBER: SP1-2506-472-4

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

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /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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Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.82

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /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 [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /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

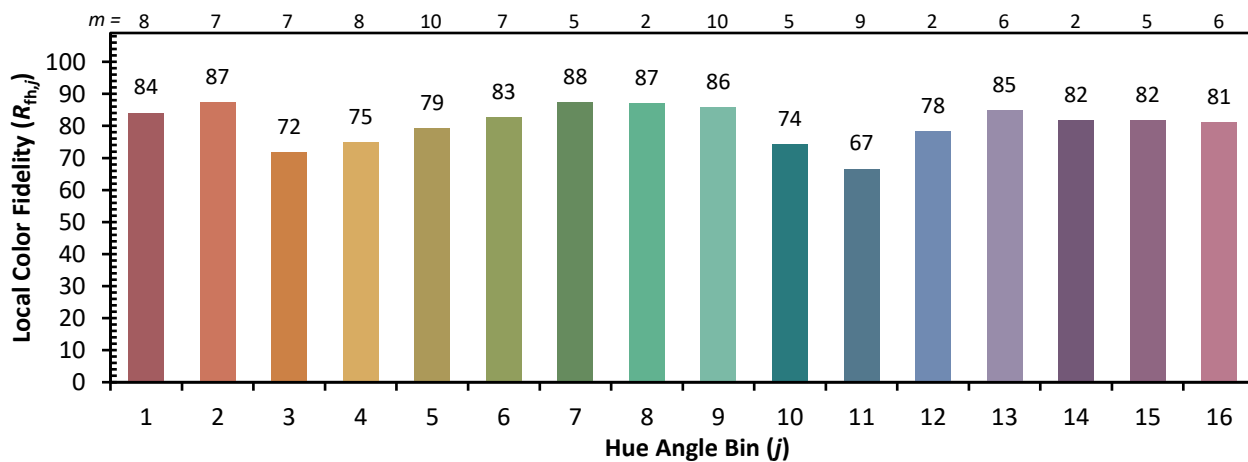
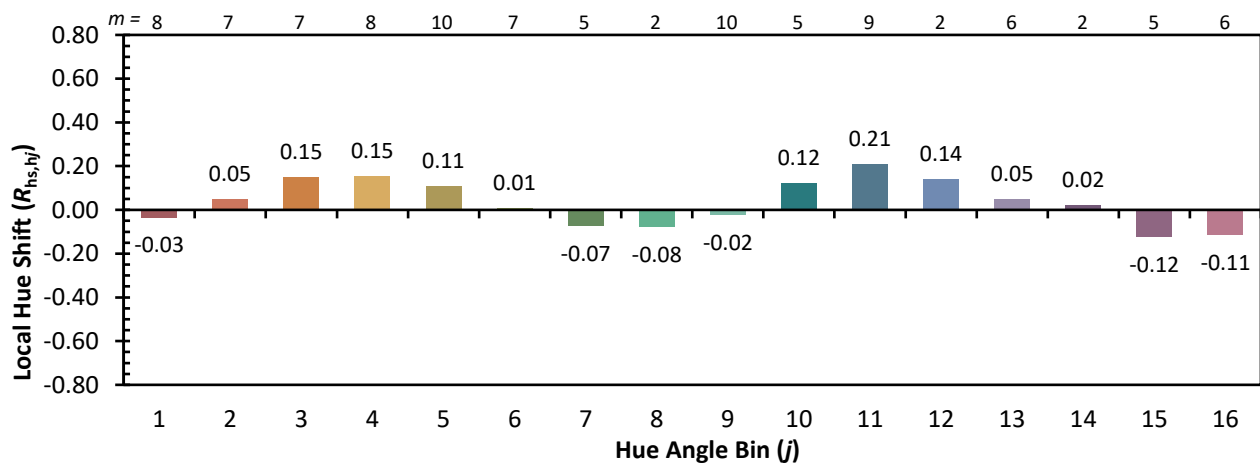
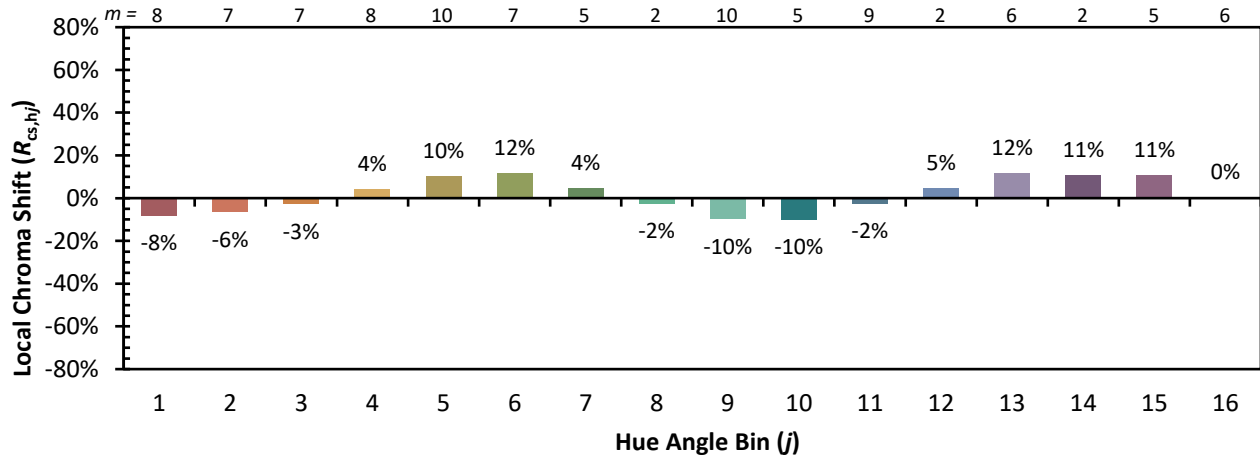


Individual Sample Fidelity Index ($R_{f,i}$)

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)