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: P1432298

Luminaire Tested: EHBR1-18-UNV-A1-L830

Issue Date: 3/13/2026

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

Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P1432298
	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:	EHBR1-18-UNV-A1-L830
Description:	Elevate Round Highbay at, 18000 lumens, 3000K 80CRI LEDs with A lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	17157.7 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

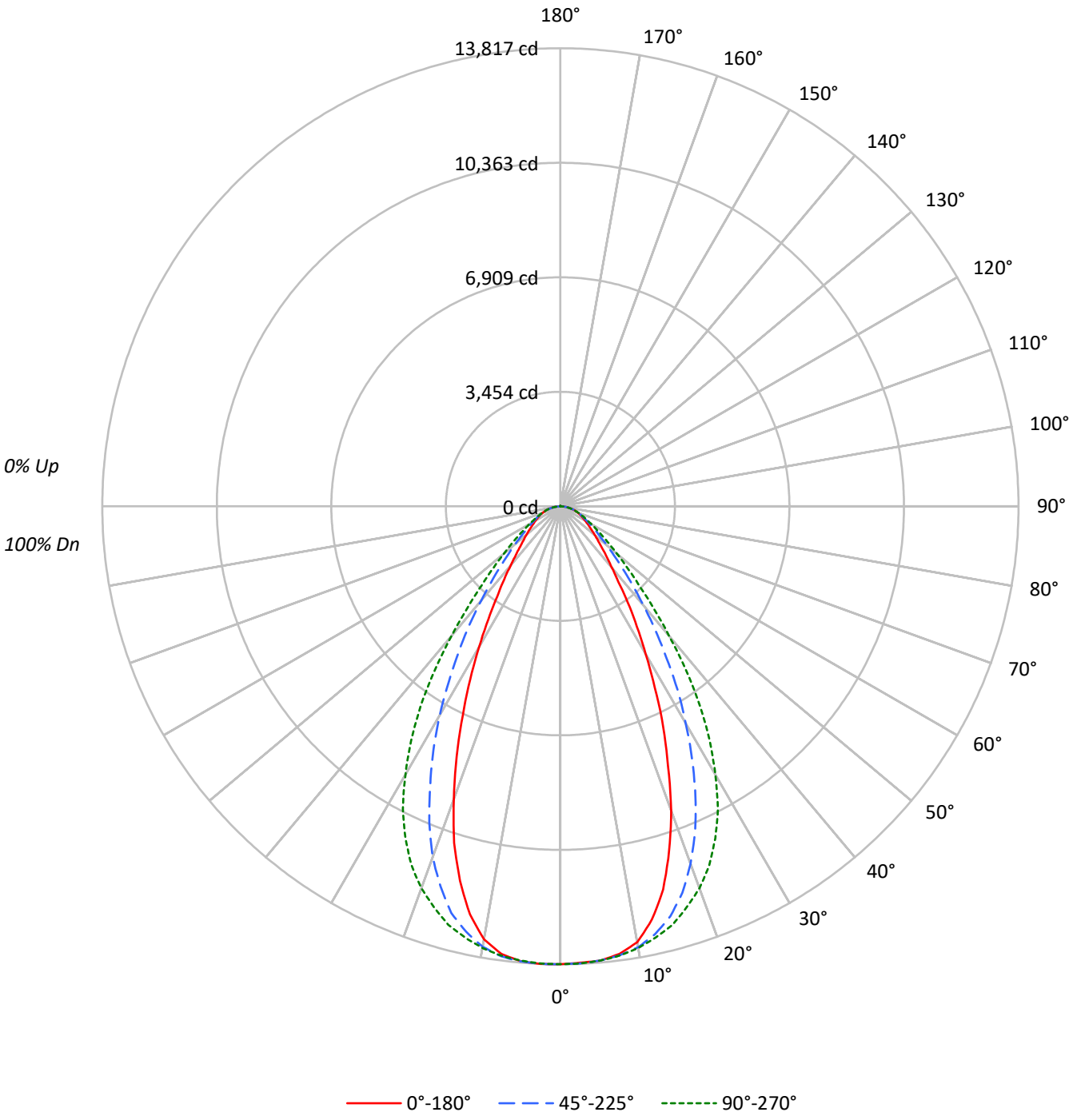
Input Watts (W):	94.7
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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

Scaled Data Report

TEST NUMBER: P1432298
CATALOG NUMBER: EHBR1-18-UNV-A1-L830

Luminous Intensity Polar Plot



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

Scaled Data Report

TEST NUMBER: P1432298
CATALOG NUMBER: EHBR1-18-UNV-A1-L830

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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°	64858	64858	64858	64858	64858
5°	64850	64840	64842	64957	64917
10°	63662	64404	64507	64325	63246
15°	58185	62245	63526	61746	56849
20°	48826	57346	61263	56266	46926
25°	38041	49952	57255	48128	36070
30°	27950	41006	50696	39449	26529
35°	20325	31883	42030	30510	18998
40°	14766	23780	31279	22777	14311
45°	11767	17593	22092	16831	11359
50°	9892	13394	16203	12952	9742
55°	8779	10748	12469	10567	8661
60°	8080	9156	10140	9098	8137
65°	7763	8296	8753	8322	7836
70°	7657	7840	8082	7884	7733
75°	7579	7532	7579	7553	7651
80°	7621	7072	6915	7183	7621
85°	6875	5830	5771	5922	7075

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
Vertical Angle: 45°
Luminance: 23148 cd/sqm

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

Scaled Data Report

TEST NUMBER: P1432298
CATALOG NUMBER: EHBR1-18-UNV-A1-L830

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1304.2	7.6
10°-20°	3505.3	20.4
20°-30°	4262.5	24.8
30°-40°	3472.1	20.2
40°-50°	2084.6	12.1
50°-60°	1199.7	7.0
60°-70°	750.8	4.4
70°-80°	442.2	2.6
80°-90°	129.3	0.8
90°-100°	0.1	0.0
100°-110°	0.1	0.0
110°-120°	0.1	0.0
120°-130°	0.2	0.0
130°-140°	0.9	0.0
140°-150°	1.6	0.0
150°-160°	1.7	0.0
160°-170°	1.6	0.0
170°-180°	0.7	0.0
0°-30°	9072.0	52.9
0°-40°	12544.1	73.1
0°-60°	15828.5	92.3
0°-90°	17150.8	100.0
90°-120°	0.2	0.0
90°-150°	2.9	0.0
90°-180°	7.0	0.0
0°-180°	17157.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	13811	13811	13811	13811	13811	
5°	13757	13755	13755	13780	13771	1300
15°	11968	12803	13066	12700	11693	3292
25°	7342	9640	11050	9288	6961	3345
35°	3545	5561	7331	5322	3314	2243
45°	1772	2649	3326	2534	1710	1398
55°	1072	1313	1523	1291	1058	969
65°	699	747	788	749	705	695
75°	418	415	418	416	422	442
85°	128	108	107	110	131	136
90°	1	0	0	0	0	7
95°	1	0	0	0	0	0
105°	1	0	0	0	1	1
115°	1	0	0	0	1	1
125°	1	0	0	0	1	1
135°	1	1	1	1	1	1
145°	3	2	2	3	3	2
155°	4	4	3	4	5	2
165°	7	6	5	6	7	2
175°	9	8	6	8	9	1
180°	8	8	8	8	8	

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

Scaled Data Report

TEST NUMBER: P1432298
CATALOG NUMBER: EHBR1-18-UNV-A1-L830

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	13811.0	13811.0	13811.0	13811.0	13811.0	13811.0	13811.0	13811.0	13811.0
2.5°	13780.7	13793.1	13798.3	13801.2	13804.4	13813.1	13816.8	13810.7	13816.0
5°	13756.7	13757.5	13754.6	13767.7	13755.2	13763.9	13779.6	13773.5	13771.1
7.5°	13616.7	13645.6	13662.7	13667.0	13669.3	13680.0	13691.0	13628.8	13619.6
10°	13350.5	13398.9	13506.1	13536.9	13527.6	13544.9	13489.4	13326.8	13263.1
12.5°	12767.1	12936.9	13215.7	13339.9	13317.3	13332.6	13143.4	12800.3	12603.0
15°	11967.9	12216.9	12802.9	13047.7	13066.4	13047.7	12700.3	12031.7	11693.0
17.5°	10905.4	11365.3	12228.2	12703.2	12675.9	12684.9	12025.4	11037.2	10649.6
20°	9770.2	10260.6	11475.0	12267.2	12258.8	12208.5	11258.9	9955.7	9389.9
22.5°	8486.5	9118.9	10611.8	11731.2	11728.1	11644.1	10325.3	8774.6	8165.4
25°	7341.6	7961.7	9640.4	11074.6	11049.7	10954.2	9288.3	7596.4	6961.2
27.5°	6157.9	6802.7	8603.4	10305.1	10288.1	10183.9	8297.0	6495.2	5890.6
30°	5154.4	5744.0	7562.1	9458.4	9349.1	9337.2	7275.0	5475.5	4892.3
32.5°	4294.7	4800.1	6580.2	8573.0	8379.5	8434.7	6256.6	4622.8	4044.8
35°	3545.3	3990.5	5561.4	7549.0	7331.4	7402.9	5321.9	3793.1	3313.8
37.5°	2877.4	3305.5	4698.0	6553.0	6220.4	6355.2	4499.9	3167.8	2783.6
40°	2408.7	2748.3	3879.1	5460.2	5102.3	5321.9	3715.4	2642.2	2334.4
42.5°	2075.5	2297.1	3201.6	4416.8	4142.3	4297.9	3062.2	2208.9	1978.6
45°	1771.8	1948.5	2649.1	3485.4	3326.5	3470.9	2534.3	1883.4	1710.4
47.5°	1547.5	1683.8	2180.8	2814.5	2715.9	2761.6	2116.6	1643.6	1503.0
50°	1354.0	1459.4	1833.3	2271.6	2217.8	2245.9	1772.9	1430.2	1333.5
52.5°	1203.7	1280.9	1537.7	1867.0	1840.4	1844.7	1510.8	1258.0	1188.0
55°	1072.3	1126.1	1312.7	1529.4	1523.0	1524.1	1290.7	1114.9	1057.8
57.5°	957.5	1002.0	1128.2	1284.6	1275.4	1277.4	1117.7	990.2	953.4
60°	860.3	890.1	974.8	1085.6	1079.6	1076.9	968.7	879.1	866.4
62.5°	774.1	793.2	851.9	930.5	919.0	921.6	851.6	794.0	775.2
65°	698.6	705.2	746.6	795.2	787.7	794.0	748.9	709.6	705.2
67.5°	624.8	631.4	655.8	688.5	679.8	685.0	656.4	633.2	629.5
70°	557.7	557.4	571.0	588.6	588.6	589.6	574.2	560.3	563.2
72.5°	488.3	486.5	490.6	502.5	499.3	510.2	494.1	489.7	490.3
75°	417.7	412.8	415.1	421.1	417.7	423.5	416.3	421.7	421.7
77.5°	351.2	341.9	339.0	339.9	333.6	342.2	344.0	347.7	356.4
80°	281.8	268.7	261.5	261.2	255.7	261.2	265.6	273.3	281.8
82.5°	209.2	197.8	185.7	183.4	179.9	183.1	188.9	198.1	211.8
85°	127.6	115.7	108.2	104.2	107.1	107.1	109.9	122.9	131.3
87.5°	46.0	40.2	33.0	33.3	34.1	35.3	36.7	46.3	50.6
90°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
92.5°	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
95°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
97.5°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
100°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
102.5°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
105°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
107.5°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
110°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6

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

Scaled Data Report

TEST NUMBER: P1432298
CATALOG NUMBER: EHBR1-18-UNV-A1-L830

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	0.6	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.6
115°	0.6	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.6
117.5°	0.8	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.6
120°	0.6	0.0	0.0	0.0	0.0	0.0	*0.0*	0.3	0.6
122.5°	0.8	0.3	0.0	0.0	0.0	0.0	*0.0*	0.3	0.8
125°	0.8	0.3	0.0	0.0	0.0	0.0	*0.3*	0.3	0.8
127.5°	0.8	0.3	0.0	0.0	0.0	0.0	*0.3*	0.6	0.8
130°	0.8	0.6	0.3	0.0	0.3	0.3	*0.6*	0.6	0.8
132.5°	1.1	0.8	0.8	0.6	0.6	0.8	*0.8*	1.1	1.1
135°	1.4	1.1	1.1	0.8	1.1	1.1	*1.1*	1.1	1.4
137.5°	1.4	1.4	1.4	1.4	1.4	1.4	*1.4*	1.4	1.8
140°	2.1	1.8	1.8	1.8	1.8	1.8	*1.8*	2.1	2.1
142.5°	2.3	2.3	2.1	2.1	2.1	2.3	*2.3*	2.3	2.6
145°	2.6	2.6	2.3	2.3	2.3	2.6	*2.6*	2.9	2.9
147.5°	3.5	3.2	2.6	2.6	2.6	2.6	*2.9*	3.2	3.5
150°	3.7	3.5	2.9	2.9	2.9	2.9	*3.2*	3.7	4.0
152.5°	4.0	3.7	3.2	2.9	2.9	2.9	*3.5*	3.7	4.3
155°	4.3	4.0	3.5	2.9	2.9	3.2	*3.7*	4.3	4.6
157.5°	5.2	4.6	4.0	3.5	3.5	3.7	*4.3*	4.9	5.2
160°	5.8	5.2	4.6	4.0	4.0	4.3	*4.9*	5.5	5.8
162.5°	6.4	5.8	4.9	4.6	4.3	4.6	*5.2*	6.1	6.4
165°	6.7	6.1	5.5	4.9	4.9	4.9	*5.8*	6.4	6.7
167.5°	6.9	6.7	5.8	5.2	5.2	5.2	*6.1*	6.7	6.9
170°	7.2	6.9	6.1	5.5	5.2	5.5	*6.4*	6.9	7.2
172.5°	7.8	7.5	6.7	6.1	5.8	6.1	*6.9*	7.5	7.8
175°	8.7	8.1	7.5	6.7	6.4	6.7	*7.5*	8.1	8.7
177.5°	9.0	8.4	7.8	6.9	6.7	6.9	*7.8*	8.4	9.0
180°	7.8	7.8	7.8	7.8	7.8	7.8	*7.8*	7.8	7.8

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

Scaled Data Report

TEST NUMBER: P1432298
CATALOG NUMBER: EHBR1-18-UNV-A1-L830

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	16.88	18.15	17.25	18.46	18.78	17.86	19.13	18.23	19.44	19.76
	3H	18.45	19.57	18.83	19.90	20.27	19.20	20.33	19.59	20.66	21.03
	4H	19.12	20.17	19.52	20.52	20.90	19.76	20.81	20.17	21.17	21.55
	6H	19.67	20.64	20.09	21.01	21.40	20.20	21.16	20.61	21.53	21.93
	8H	19.87	20.78	20.30	21.18	21.58	20.33	21.25	20.76	21.64	22.04
	12H	20.00	20.87	20.43	21.26	21.69	20.41	21.28	20.84	21.67	22.10
4H	2H	17.45	18.50	17.86	18.85	19.24	18.22	19.27	18.63	19.62	20.01
	3H	19.24	20.11	19.66	20.51	20.92	19.81	20.68	20.23	21.08	21.49
	4H	20.04	20.81	20.47	21.23	21.68	20.51	21.28	20.95	21.70	22.15
	6H	20.72	21.39	21.19	21.84	22.31	21.08	21.75	21.55	22.20	22.66
	8H	20.97	21.59	21.44	22.04	22.52	21.27	21.89	21.74	22.34	22.81
	12H	21.14	21.69	21.63	22.18	22.65	21.38	21.93	21.87	22.42	22.89
8H	4H	20.32	20.94	20.79	21.39	21.86	20.74	21.37	21.21	21.81	22.29
	6H	21.14	21.65	21.64	22.14	22.63	21.44	21.95	21.95	22.45	22.93
	8H	21.47	21.92	21.99	22.44	22.93	21.70	22.16	22.23	22.68	23.17
	12H	21.72	22.12	22.23	22.61	23.19	21.90	22.30	22.41	22.79	23.37
12H	4H	20.34	20.89	20.82	21.37	21.85	20.76	21.31	21.24	21.79	22.27
	6H	21.18	21.64	21.71	22.16	22.65	21.49	21.94	22.01	22.46	22.95
	8H	21.57	21.97	22.09	22.47	23.04	21.81	22.20	22.32	22.70	23.27

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: SP1-2506-472-2

Test Date: 07/31/2025

Luminaire Tested: EHBR-60-L830-N

Data in this report applies to families of products including EHBR-60-L830-N

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

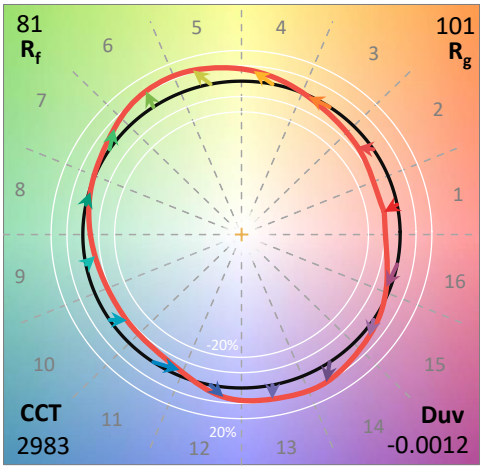
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2506-472-2
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-L830-N**
Description:	Elevate Round Highbay at, 60000 lumens, 3000K 80CRI LEDs with N lens

Spectral Parameters

CCT (K):	2983
CIE u':	0.2516
CIE v':	0.5201
Duv:	-0.0012
CIE x:	0.4364
CIE y:	0.4010
CIE z:	0.1626
Peak Wavelength (nm):	630
Dominant Wavelength (nm):	583
Purity:	51.34918
Rf:	81.2
Rg:	101.5

CRI (Ra):	83.4				
R1:	84.0	R9:	29.4		
R2:	87.5	R10:	68.6		
R3:	88.9	R11:	82.2		
R4:	83.8	R12:	61.6		
R5:	81.9	R13:	83.9		
R6:	83.1	R14:	92.5		
R7:	87.1	R15:	79.8		
R8:	70.9				



Test Conditions

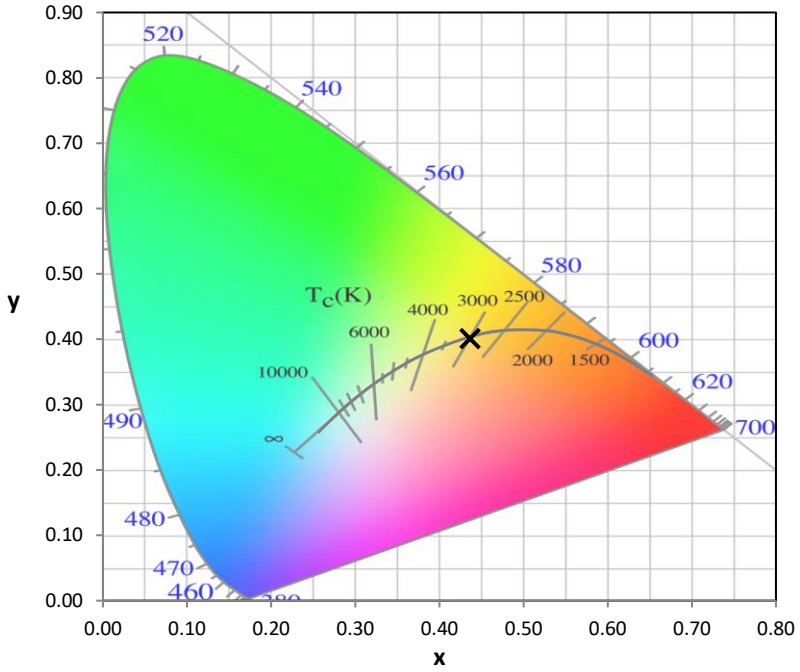
Stabilization Time:	38M
Operation Time:	1H 38M
Sphere Temperature (°C):	25.0

REPORT NUMBER: SP1-2506-472-2

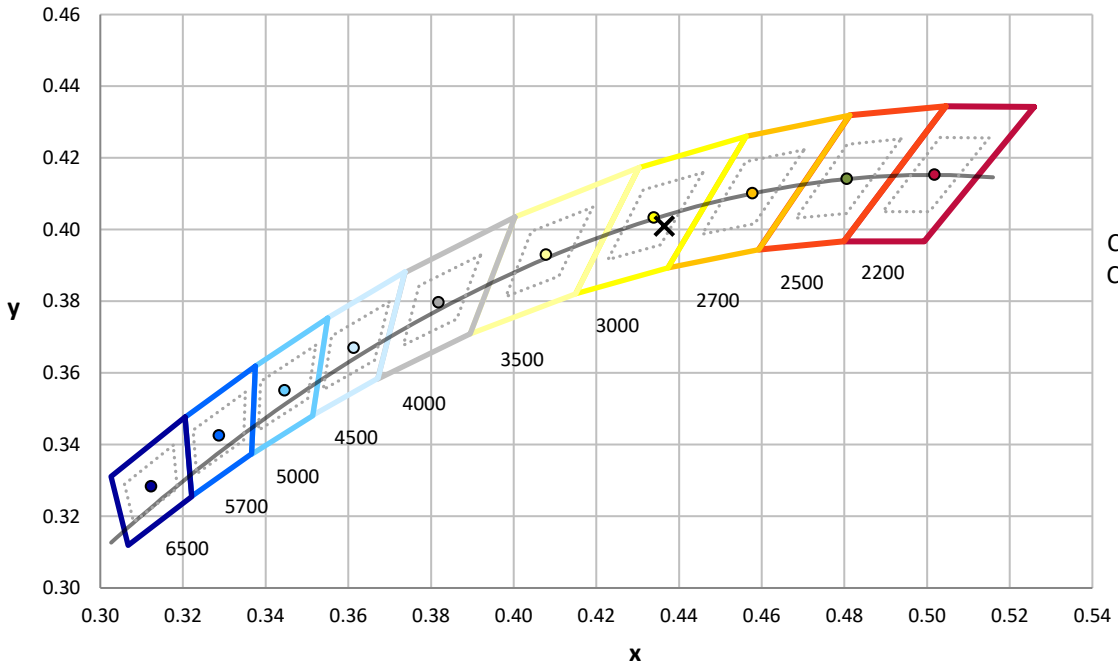
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208	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: SP1-2506-472-2

CIE 1931 Chromaticity Diagram



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

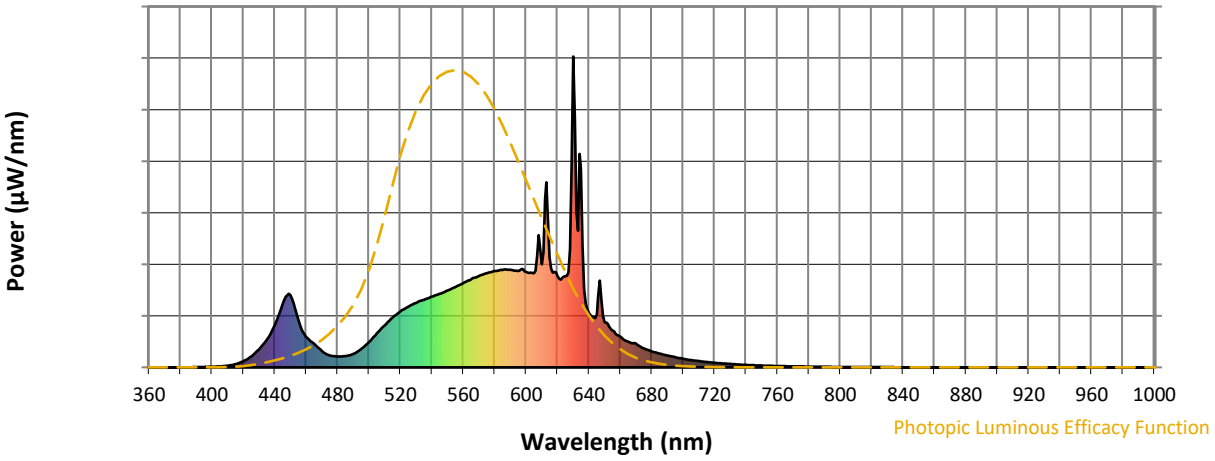


CCT = 2983K
CIE x = 0.4364
CIE y = 0.4010
Duv = -0.0012

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-2

Photopic Flux vs. Wavelength

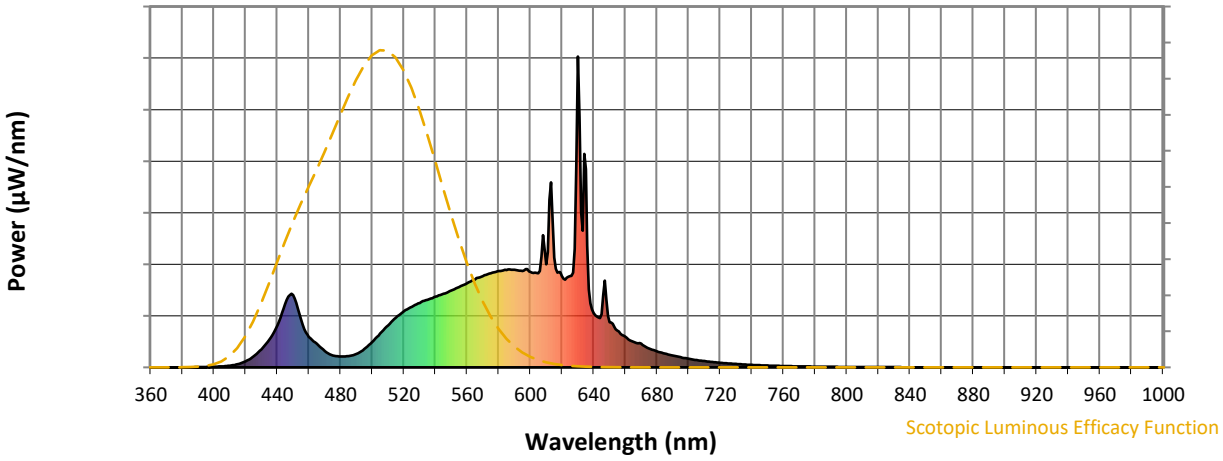


Photopic Lumens: NR

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	43	NR	620	294	NR	750	6	NR	880	0	NR
365	0	NR	495	59	NR	625	294	NR	755	5	NR	885	0	NR
370	0	NR	500	81	NR	630	1000	NR	760	4	NR	890	0	NR
375	0	NR	505	109	NR	635	637	NR	765	4	NR	895	0	NR
380	0	NR	510	135	NR	640	175	NR	770	3	NR	900	0	NR
385	0	NR	515	160	NR	645	171	NR	775	3	NR	905	0	NR
390	1	NR	520	180	NR	650	146	NR	780	2	NR	910	0	NR
395	1	NR	525	195	NR	655	119	NR	785	2	NR	915	0	NR
400	2	NR	530	207	NR	660	99	NR	790	2	NR	920	0	NR
405	3	NR	535	218	NR	665	82	NR	795	2	NR	925	0	NR
410	5	NR	540	227	NR	670	76	NR	800	1	NR	930	0	NR
415	10	NR	545	237	NR	675	61	NR	805	1	NR	935	0	NR
420	20	NR	550	247	NR	680	52	NR	810	1	NR	940	0	NR
425	35	NR	555	259	NR	685	44	NR	815	1	NR	945	0	NR
430	58	NR	560	271	NR	690	38	NR	820	1	NR	950	0	NR
435	90	NR	565	283	NR	695	33	NR	825	1	NR	955	0	NR
440	135	NR	570	293	NR	700	27	NR	830	1	NR	960	0	NR
445	204	NR	575	303	NR	705	24	NR	835	1	NR	965	0	NR
450	233	NR	580	310	NR	710	20	NR	840	0	NR	970	0	NR
455	153	NR	585	313	NR	715	17	NR	845	0	NR	975	0	NR
460	98	NR	590	314	NR	720	15	NR	850	0	NR	980	0	NR
465	76	NR	595	310	NR	725	13	NR	855	0	NR	985	0	NR
470	53	NR	600	307	NR	730	11	NR	860	0	NR	990	0	NR
475	39	NR	605	303	NR	735	9	NR	865	0	NR	995	0	NR
480	35	NR	610	331	NR	740	8	NR	870	0	NR	1000	0	NR
485	36	NR	615	353	NR	745	7	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-2

Scotopic Flux vs. Wavelength

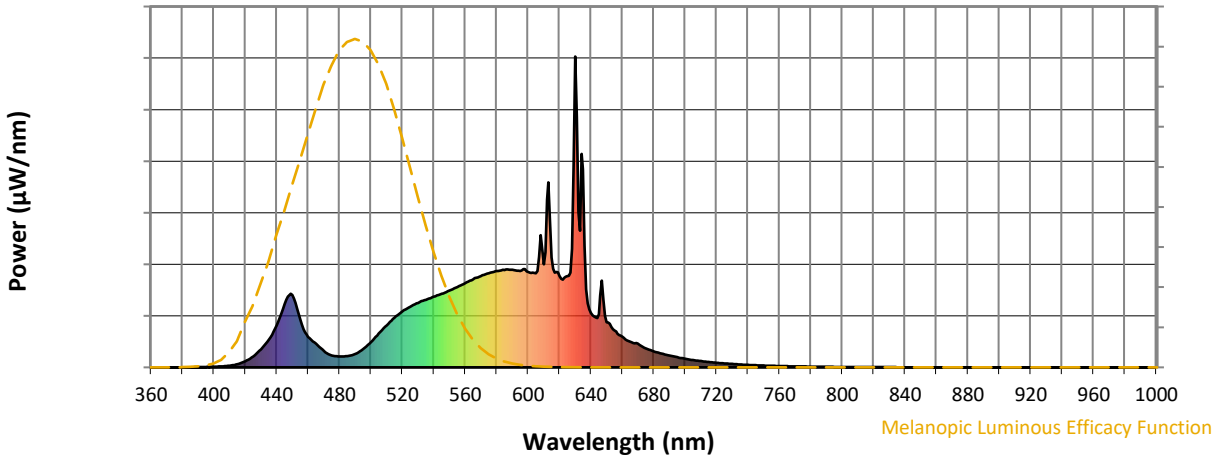


Scotopic Lumens: NR **S/P: 1.27**

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	43	NR	620	294	NR	750	6	NR	880	0	NR
365	0	NR	495	59	NR	625	294	NR	755	5	NR	885	0	NR
370	0	NR	500	81	NR	630	1000	NR	760	4	NR	890	0	NR
375	0	NR	505	109	NR	635	637	NR	765	4	NR	895	0	NR
380	0	NR	510	135	NR	640	175	NR	770	3	NR	900	0	NR
385	0	NR	515	160	NR	645	171	NR	775	3	NR	905	0	NR
390	1	NR	520	180	NR	650	146	NR	780	2	NR	910	0	NR
395	1	NR	525	195	NR	655	119	NR	785	2	NR	915	0	NR
400	2	NR	530	207	NR	660	99	NR	790	2	NR	920	0	NR
405	3	NR	535	218	NR	665	82	NR	795	2	NR	925	0	NR
410	5	NR	540	227	NR	670	76	NR	800	1	NR	930	0	NR
415	10	NR	545	237	NR	675	61	NR	805	1	NR	935	0	NR
420	20	NR	550	247	NR	680	52	NR	810	1	NR	940	0	NR
425	35	NR	555	259	NR	685	44	NR	815	1	NR	945	0	NR
430	58	NR	560	271	NR	690	38	NR	820	1	NR	950	0	NR
435	90	NR	565	283	NR	695	33	NR	825	1	NR	955	0	NR
440	135	NR	570	293	NR	700	27	NR	830	1	NR	960	0	NR
445	204	NR	575	303	NR	705	24	NR	835	1	NR	965	0	NR
450	233	NR	580	310	NR	710	20	NR	840	0	NR	970	0	NR
455	153	NR	585	313	NR	715	17	NR	845	0	NR	975	0	NR
460	98	NR	590	314	NR	720	15	NR	850	0	NR	980	0	NR
465	76	NR	595	310	NR	725	13	NR	855	0	NR	985	0	NR
470	53	NR	600	307	NR	730	11	NR	860	0	NR	990	0	NR
475	39	NR	605	303	NR	735	9	NR	865	0	NR	995	0	NR
480	35	NR	610	331	NR	740	8	NR	870	0	NR	1000	0	NR
485	36	NR	615	353	NR	745	7	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.34**

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	43	NR	620	294	NR	750	6	NR	880	0	NR
365	0	NR	495	59	NR	625	294	NR	755	5	NR	885	0	NR
370	0	NR	500	81	NR	630	1000	NR	760	4	NR	890	0	NR
375	0	NR	505	109	NR	635	637	NR	765	4	NR	895	0	NR
380	0	NR	510	135	NR	640	175	NR	770	3	NR	900	0	NR
385	0	NR	515	160	NR	645	171	NR	775	3	NR	905	0	NR
390	1	NR	520	180	NR	650	146	NR	780	2	NR	910	0	NR
395	1	NR	525	195	NR	655	119	NR	785	2	NR	915	0	NR
400	2	NR	530	207	NR	660	99	NR	790	2	NR	920	0	NR
405	3	NR	535	218	NR	665	82	NR	795	2	NR	925	0	NR
410	5	NR	540	227	NR	670	76	NR	800	1	NR	930	0	NR
415	10	NR	545	237	NR	675	61	NR	805	1	NR	935	0	NR
420	20	NR	550	247	NR	680	52	NR	810	1	NR	940	0	NR
425	35	NR	555	259	NR	685	44	NR	815	1	NR	945	0	NR
430	58	NR	560	271	NR	690	38	NR	820	1	NR	950	0	NR
435	90	NR	565	283	NR	695	33	NR	825	1	NR	955	0	NR
440	135	NR	570	293	NR	700	27	NR	830	1	NR	960	0	NR
445	204	NR	575	303	NR	705	24	NR	835	1	NR	965	0	NR
450	233	NR	580	310	NR	710	20	NR	840	0	NR	970	0	NR
455	153	NR	585	313	NR	715	17	NR	845	0	NR	975	0	NR
460	98	NR	590	314	NR	720	15	NR	850	0	NR	980	0	NR
465	76	NR	595	310	NR	725	13	NR	855	0	NR	985	0	NR
470	53	NR	600	307	NR	730	11	NR	860	0	NR	990	0	NR
475	39	NR	605	303	NR	735	9	NR	865	0	NR	995	0	NR
480	35	NR	610	331	NR	740	8	NR	870	0	NR	1000	0	NR
485	36	NR	615	353	NR	745	7	NR	875	0	NR			

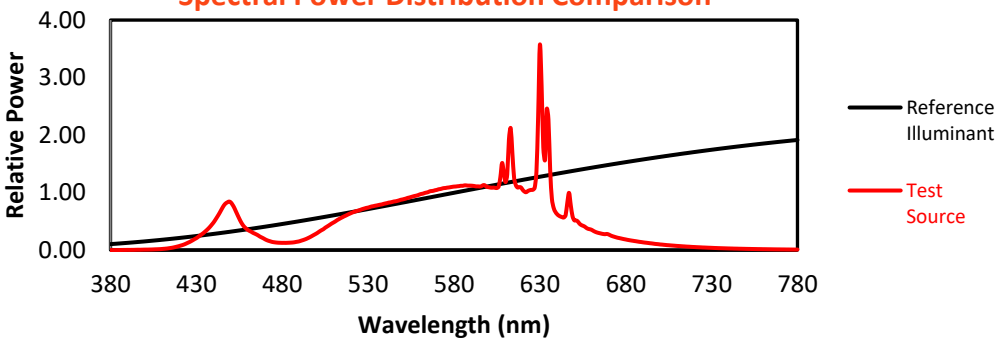
REPORT NUMBER: SP1-2506-472-2

TM-30-18

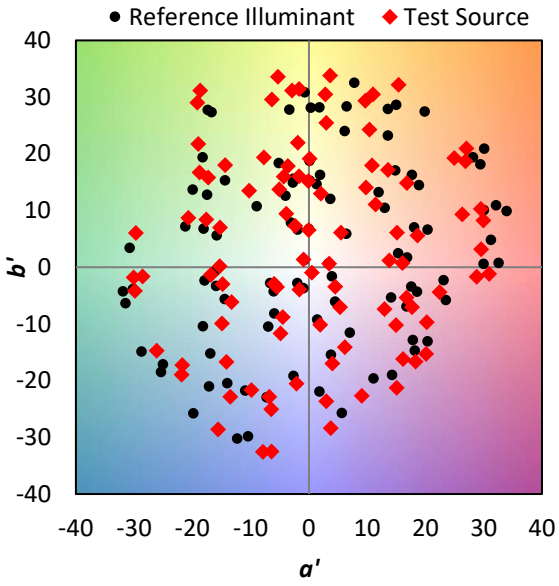
Summary

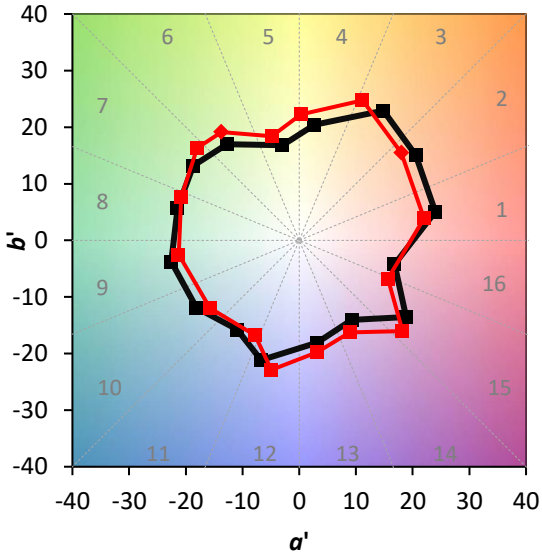
R_f = 81.2
R_g = 101.5
CIE R_a = 83.4
R_9 = 29.4

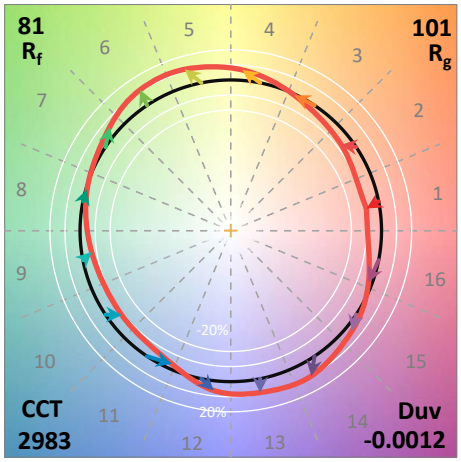
Spectral Power Distribution Comparison

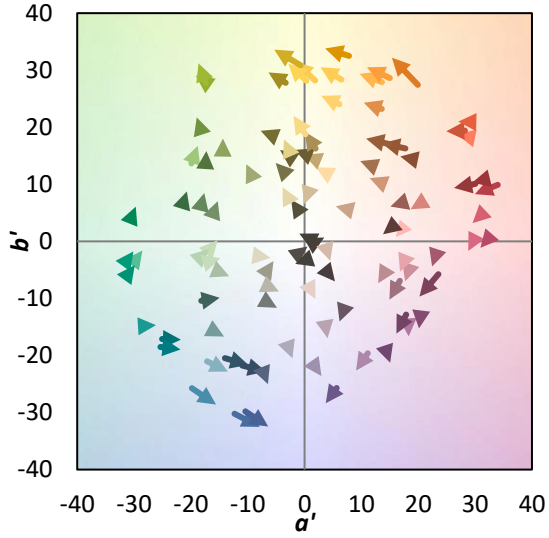


Color Vector Graphics







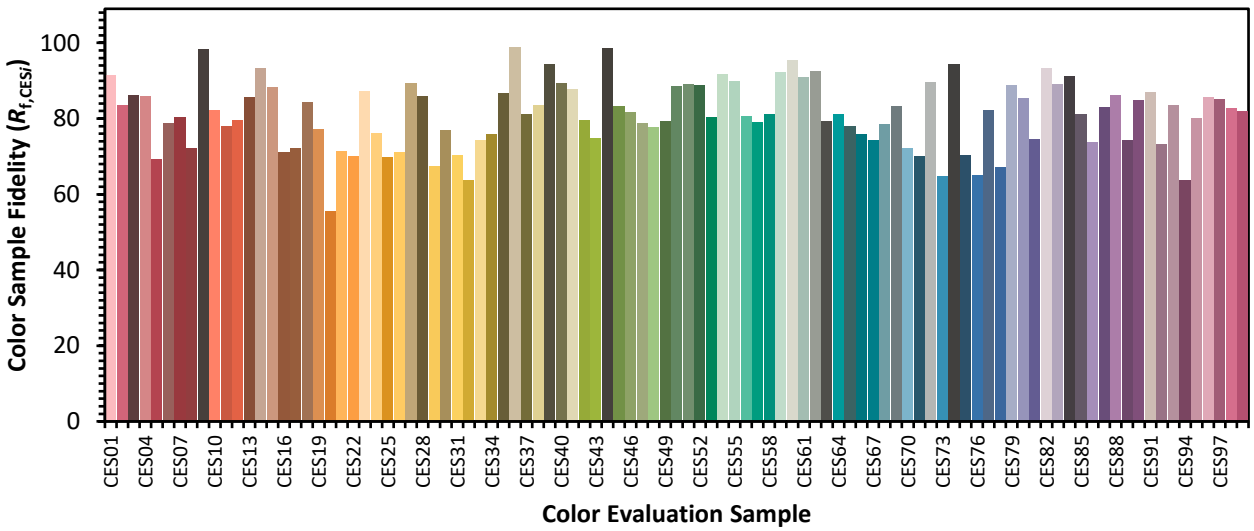


REPORT NUMBER: SP1-2506-472-2

TM-30-18

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

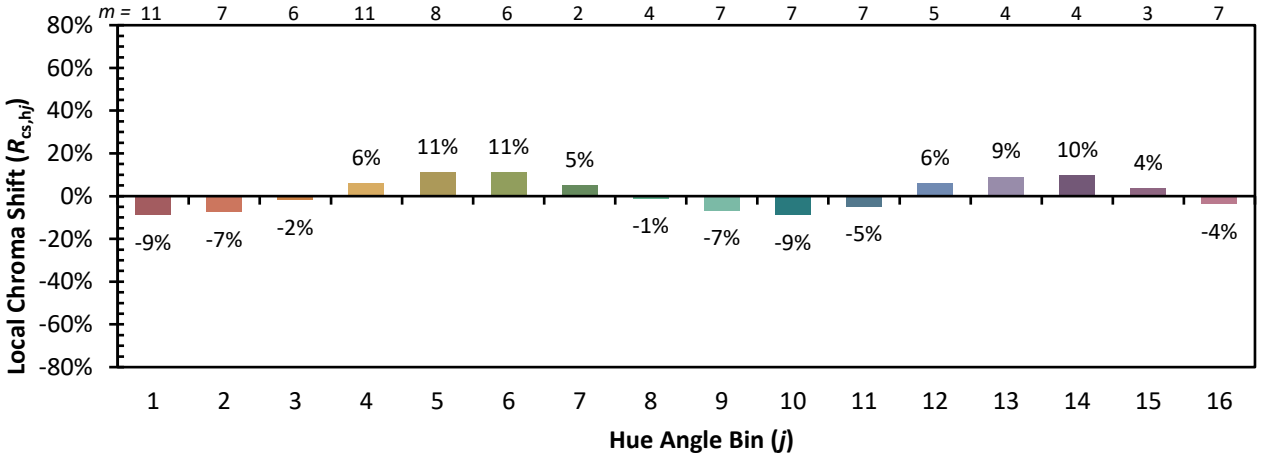
CES01 = 86	CES26 = 71	CES51 = 89	CES76 = 65
CES02 = 63	CES27 = 89	CES52 = 89	CES77 = 82
CES03 = 31	CES28 = 86	CES53 = 80	CES78 = 67
CES04 = 70	CES29 = 68	CES54 = 92	CES79 = 89
CES05 = 50	CES30 = 77	CES55 = 90	CES80 = 85
CES06 = 51	CES31 = 70	CES56 = 81	CES81 = 75
CES07 = 43	CES32 = 64	CES57 = 79	CES82 = 93
CES08 = 41	CES33 = 74	CES58 = 81	CES83 = 89
CES09 = 29	CES34 = 76	CES59 = 92	CES84 = 91
CES10 = 76	CES35 = 87	CES60 = 96	CES85 = 81
CES11 = 59	CES36 = 99	CES61 = 91	CES86 = 74
CES12 = 65	CES37 = 81	CES62 = 93	CES87 = 83
CES13 = 44	CES38 = 83	CES63 = 79	CES88 = 86
CES14 = 74	CES39 = 94	CES64 = 81	CES89 = 74
CES15 = 72	CES40 = 89	CES65 = 78	CES90 = 85
CES16 = 48	CES41 = 88	CES66 = 76	CES91 = 87
CES17 = 50	CES42 = 80	CES67 = 74	CES92 = 73
CES18 = 57	CES43 = 75	CES68 = 79	CES93 = 84
CES19 = 72	CES44 = 99	CES69 = 83	CES94 = 64
CES20 = 67	CES45 = 83	CES70 = 72	CES95 = 80
CES21 = 87	CES46 = 82	CES71 = 70	CES96 = 86
CES22 = 79	CES47 = 79	CES72 = 90	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 65	CES98 = 83
CES24 = 91	CES49 = 79	CES74 = 94	CES99 = 82
CES25 = 72	CES50 = 88	CES75 = 70	

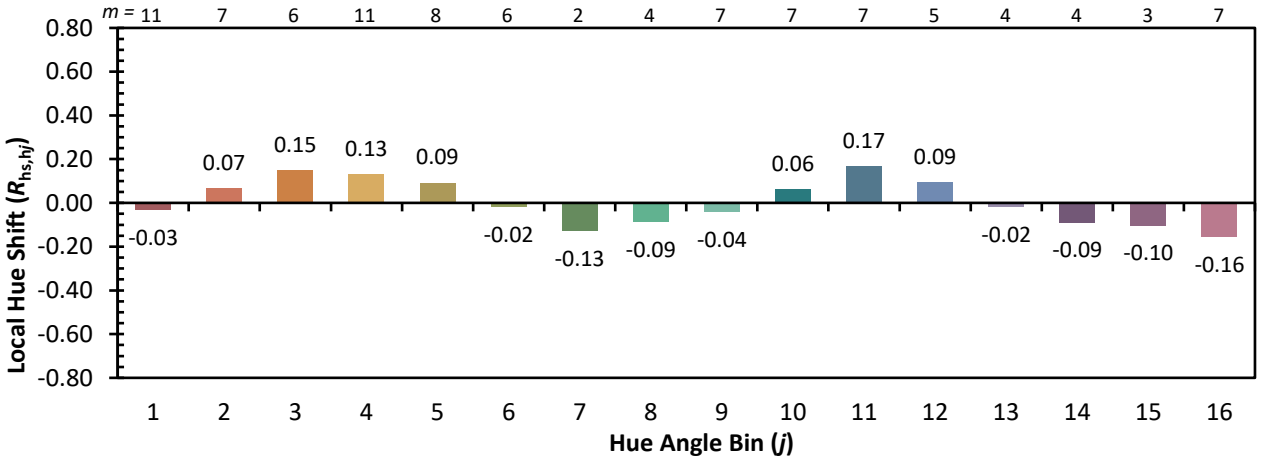


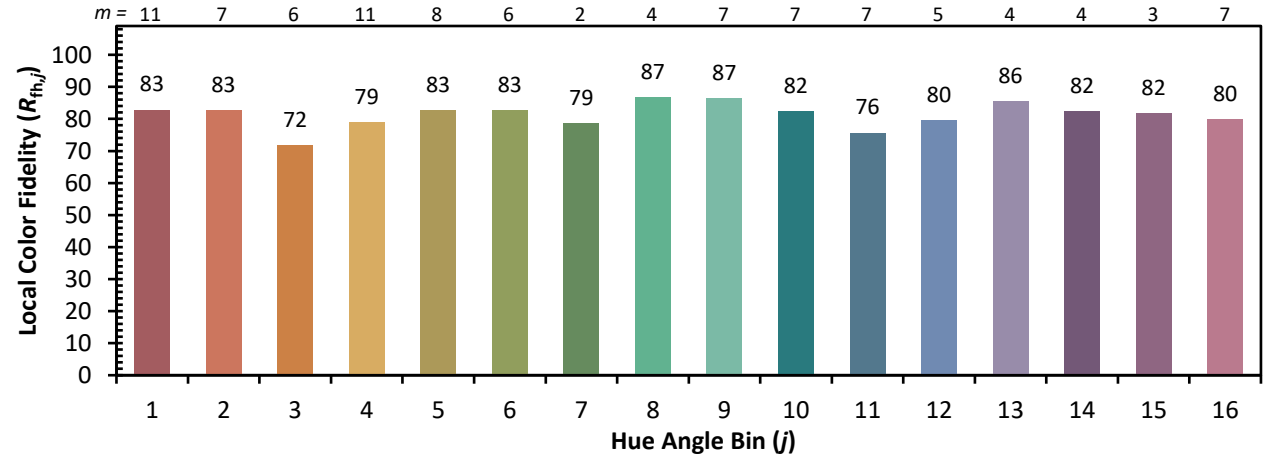
REPORT NUMBER: SP1-2506-472-2

TM-30-18

Color Rendition by Hue-Angle Bin



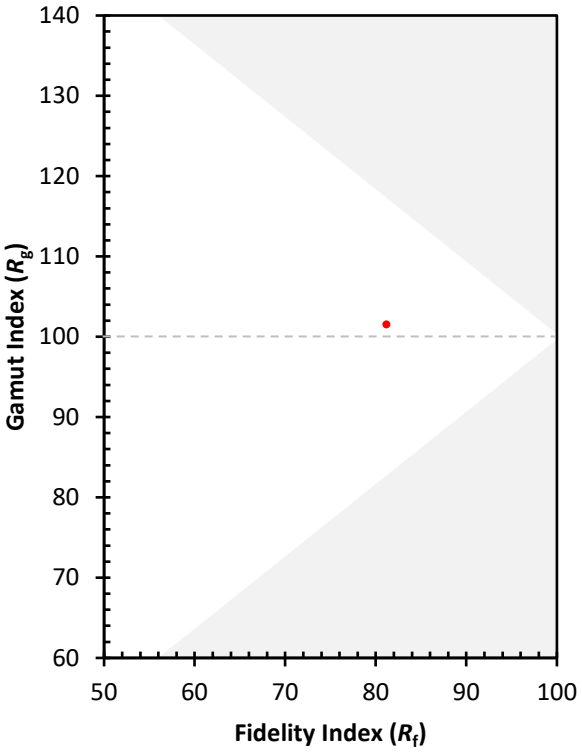


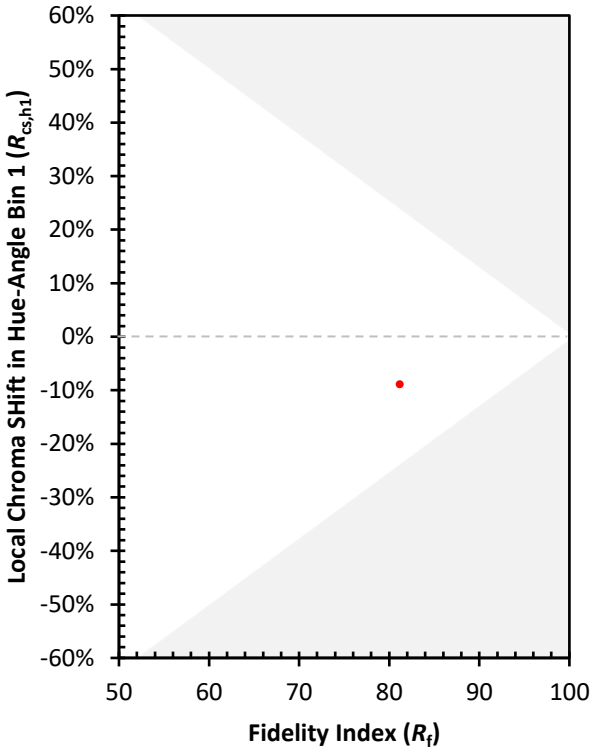


REPORT NUMBER: SP1-2506-472-2

TM-30-18

Measure Comparisons





(END OF REPORT)