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: P1433035

Luminaire Tested: EHBR1-48-UNV-ASM-L850-UPL12

Issue Date: 3/20/2026

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:	P1433035
	REPORT IS A COMBINATION OF REPORTS P1431836 AND P1431635
Test Lab:	INNOVATION CENTER
Issue Date:	3/20/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	METALUX
Catalog Number:	EHBR1-48-UNV-ASM-L850-UPL12
Description:	Elevate Round Highbay at, 48000 lumens, 5000K 80CRI LEDs with ASM lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	47820.4 lumens
Efficiency:	N/A
Efficacy:	179.8 lumens/watt
Spacing Criteria (0/90/45):	0.84 / 0.99 / 0.92
Luminous Opening:	Vertical Cylinder (Dia: 1.71' x H: 0.1')
CIE Type:	Direct

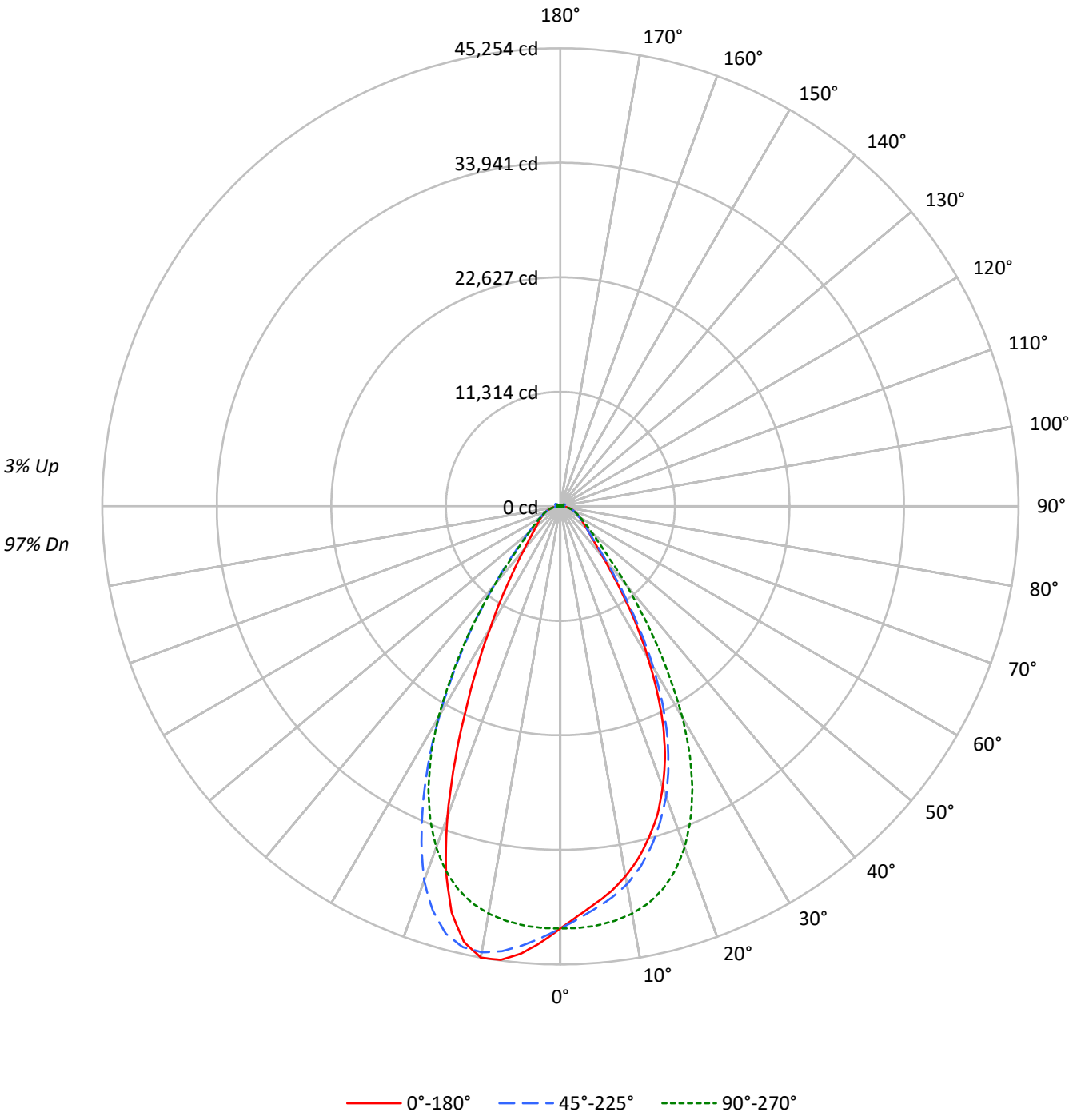
Input Watts (W):	266
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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

Scaled Data Report

TEST NUMBER: P1433035
CATALOG NUMBER: EHBR1-48-UNV-ASM-L850-UPL12

Luminous Intensity Polar Plot



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

Scaled Data Report

TEST NUMBER: P1433035
CATALOG NUMBER: EHBR1-48-UNV-ASM-L850-UPL12

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	118	118	118	118	115	115	115	115	110	110	110	104	104	104	100	100	100	97
1	111	108	105	102	108	105	103	100	101	99	97	97	95	93	93	91	90	88
2	104	98	93	89	102	96	92	88	93	89	86	89	86	83	86	84	81	79
3	98	90	84	79	96	89	83	79	85	81	77	83	79	75	80	77	74	72
4	92	83	77	72	90	82	76	71	79	74	70	77	72	69	75	71	68	66
5	87	77	70	65	85	76	69	65	74	68	64	72	67	63	70	66	62	60
6	82	71	65	60	80	70	64	59	69	63	59	67	62	58	65	61	57	56
7	77	67	60	55	76	66	59	55	64	58	54	63	58	54	61	57	53	52
8	73	62	56	51	72	62	55	51	60	54	50	59	54	50	58	53	50	48
9	69	58	52	47	68	58	52	47	57	51	47	56	50	47	54	50	46	45
10	66	55	49	44	65	54	48	44	53	48	44	52	47	44	52	47	43	42

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	195851	195851	195851	195851	195851
5°	184557	186715	194660	203996	207665
10°	174668	178367	192266	210545	212997
15°	161347	165656	186590	208385	197940
20°	143714	148554	174508	191547	158721
25°	120439	124997	154453	160665	109971
30°	90113	95337	125410	124158	71544
35°	59990	63612	89948	88496	46334
40°	37832	40431	58155	58529	31936
45°	26956	28077	36898	38484	24738
50°	22453	22632	27402	28115	21021
55°	19819	19866	22372	22962	19149
60°	18351	18196	19373	19782	18240
65°	17517	17360	17660	18004	17592
70°	17014	16720	16737	17059	17236
75°	16176	15686	15652	16207	16674
80°	14717	13690	13751	14717	15743
85°	10719	8897	8897	10172	11240

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
Vertical Angle: 45°
Luminance: 51878 cd/sqm

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

Scaled Data Report

TEST NUMBER: P1433035
CATALOG NUMBER: EHBR1-48-UNV-ASM-L850-UPL12

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3965.5	8.3
10°-20°	10788.5	22.6
20°-30°	12652.7	26.5
30°-40°	8799.1	18.4
40°-50°	4372.7	9.1
50°-60°	2615.4	5.5
60°-70°	1840.8	3.8
70°-80°	1185.8	2.5
80°-90°	378.7	0.8
90°-100°	33.4	0.1
100°-110°	209.7	0.4
110°-120°	385.7	0.8
120°-130°	230.6	0.5
130°-140°	141.4	0.3
140°-150°	99.5	0.2
150°-160°	66.9	0.1
160°-170°	40.3	0.1
170°-180°	13.8	0.0
0°-30°	27406.6	57.3
0°-40°	36205.8	75.7
0°-60°	43193.9	90.3
0°-90°	46599.2	97.4
90°-120°	628.8	1.3
90°-150°	1100.2	2.3
90°-180°	1221.0	2.6
0°-180°	47820.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	41705	41705	41705	41705	41705	
5°	39406	39867	41563	43556	44340	3696
15°	33850	34754	39146	43718	41527	9440
25°	24052	24962	30844	32085	21961	10852
35°	11010	11675	16509	16242	8504	7014
45°	4361	4543	5970	6227	4002	3526
55°	2678	2685	3023	3103	2588	2430
65°	1828	1812	1843	1879	1836	1816
75°	1140	1105	1103	1142	1175	1203
85°	368	306	306	350	386	379
90°	9	25	9	27	15	23
95°	15	54	18	48	21	15
105°	74	363	97	389	54	98
115°	333	430	410	477	354	307
125°	241	232	264	258	280	220
135°	177	180	170	189	197	139
145°	152	159	157	159	164	96
155°	140	143	142	142	149	65
165°	139	141	141	142	148	40
175°	143	145	146	147	152	14
180°	146	146	146	146	146	

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

Scaled Data Report

TEST NUMBER: P1433035
CATALOG NUMBER: EHBR1-48-UNV-ASM-L850-UPL12

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	41705.1	41705.1	41705.1	41705.1	41705.1	41705.1	41705.1	41705.1	41705.1
2.5°	40467.2	40493.7	40776.8	41145.2	41681.0	42219.7	42656.1	42943.9	43086.2
5°	39405.9	39553.0	39866.6	40543.1	41562.9	42642.0	43556.3	44154.5	44339.8
7.5°	38372.2	38457.3	38982.1	39836.9	41280.5	42961.9	44320.3	45018.6	45189.1
10°	37110.7	37303.8	37896.6	38904.7	40849.6	43163.6	44733.2	45233.7	45254.1
12.5°	35626.4	35882.1	36494.5	37766.1	40162.2	43091.7	44594.8	44430.5	44057.5
15°	33849.7	34074.0	34753.7	36228.6	39145.5	42665.5	43718.1	42381.6	41526.8
17.5°	31930.5	32133.9	32724.2	34348.6	37712.9	41867.8	41888.1	39244.1	37631.5
20°	29537.5	29697.0	30532.2	32126.0	35866.5	40588.4	39368.4	34532.4	32621.8
22.5°	26991.1	27140.6	27882.7	29541.4	33551.6	38863.2	35859.5	29792.4	27185.9
25°	24051.5	24132.9	24961.8	26461.7	30844.2	36749.4	32084.6	24627.8	21961.1
27.5°	20744.3	20882.7	21750.0	23282.0	27659.8	34070.2	28064.9	20124.9	17664.6
30°	17333.1	17562.1	18338.0	19709.7	24122.6	30635.5	23881.8	16027.0	13761.4
32.5°	14149.3	14314.4	14867.3	16300.8	20162.4	27268.7	19864.5	12841.8	10922.7
35°	11010.3	11175.3	11675.0	13082.7	16508.7	23056.7	16242.1	10090.6	8503.9
37.5°	8416.2	8708.0	9028.6	10171.1	12955.9	19077.0	12947.4	8125.4	6897.5
40°	6557.3	6604.3	7007.8	7739.1	10079.7	14916.5	10144.6	6486.2	5535.3
42.5°	5249.0	5376.5	5550.1	6097.5	7637.4	11406.0	7973.6	5323.3	4701.6
45°	4361.4	4411.5	4542.8	4910.4	5970.0	8393.6	6226.6	4491.3	4002.5
47.5°	3815.5	3793.6	3878.1	4153.4	4861.9	6487.0	5046.5	3852.3	3509.8
50°	3346.3	3333.0	3372.9	3556.7	4083.8	4977.6	4190.1	3362.7	3132.8
52.5°	2981.9	2993.7	2997.6	3111.7	3508.2	4059.6	3568.4	2996.8	2841.9
55°	2678.4	2693.4	2684.7	2769.2	3023.3	3412.8	3103.1	2694.9	2587.8
57.5°	2441.5	2430.6	2418.8	2464.2	2655.1	2895.1	2694.9	2437.6	2366.5
60°	2206.1	2195.9	2187.4	2217.1	2328.9	2507.2	2378.1	2213.1	2192.8
62.5°	2004.4	1998.1	1997.3	1991.8	2077.9	2190.5	2102.9	2011.4	1993.4
65°	1828.4	1821.4	1812.0	1803.4	1843.3	1948.1	1879.2	1829.9	1836.2
67.5°	1652.4	1652.4	1636.0	1622.8	1661.9	1716.6	1686.8	1658.7	1665.8
70°	1492.9	1493.7	1467.1	1456.9	1468.6	1527.3	1496.8	1500.8	1512.4
72.5°	1321.7	1302.8	1283.3	1282.5	1284.1	1329.4	1319.3	1328.7	1341.2
75°	1139.5	1117.6	1105.0	1090.9	1102.6	1137.1	1141.7	1155.1	1174.6
77.5°	963.4	929.8	919.6	912.7	904.8	943.9	958.8	976.8	1005.7
80°	774.2	737.4	720.2	710.1	723.4	741.3	774.2	787.5	828.2
82.5°	572.5	545.1	524.0	523.2	529.5	545.9	574.1	599.0	622.5
85°	368.4	324.6	305.8	312.9	305.8	330.8	349.6	379.3	386.3
87.5°	132.9	104.0	99.3	109.5	107.2	114.9	131.3	143.1	143.9
90°	9.3	14.6	24.6	15.9	9.3	16.1	27.4	17.9	14.8
92.5°	13.4	21.9	39.1	20.5	12.0	21.3	38.0	22.5	18.2
95°	15.3	25.1	54.2	27.2	18.1	25.9	47.8	24.5	20.8
97.5°	20.0	27.8	62.2	33.1	27.3	31.9	53.8	25.8	24.1
100°	25.9	32.4	96.5	41.2	35.9	35.9	96.7	29.1	26.7
102.5°	43.1	68.1	204.0	76.1	53.7	69.6	222.2	55.0	31.3
105°	73.5	142.6	363.0	158.0	96.6	156.8	389.1	134.8	53.9
107.5°	126.2	254.8	479.2	278.7	181.7	290.7	500.6	261.5	117.9
110°	234.5	337.9	502.3	382.2	289.9	405.5	546.1	356.5	232.7

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

Scaled Data Report

TEST NUMBER: P1433035
CATALOG NUMBER: EHBR1-48-UNV-ASM-L850-UPL12

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	316.3	363.0	481.2	421.8	376.9	451.7	533.6	394.8	*319.7*
115°	332.8	349.1	429.8	411.9	410.1	445.1	476.8	393.4	*354.1*
117.5°	321.5	318.8	365.1	371.1	396.3	407.5	412.2	369.6	*356.1*
120°	297.8	283.8	305.0	324.3	358.0	353.3	348.3	334.7	*336.2*
122.5°	268.1	252.3	262.3	276.9	310.6	300.7	294.9	299.9	*309.2*
125°	241.2	224.6	232.1	236.1	263.7	253.8	258.1	269.5	*279.7*
127.5°	216.8	205.4	210.3	207.2	224.9	220.3	231.0	243.8	*252.6*
130°	200.3	191.1	197.2	188.8	197.3	197.9	211.9	223.5	*228.9*
132.5°	187.2	181.2	188.9	178.5	180.4	184.9	198.1	208.4	*211.9*
135°	177.3	172.8	180.4	171.3	169.9	176.2	189.0	195.1	*197.3*
137.5°	169.5	165.7	174.0	166.9	164.0	170.4	179.8	185.4	*184.8*
140°	163.2	160.0	168.2	162.3	160.9	167.3	171.2	177.4	*177.7*
142.5°	156.2	153.5	163.1	159.0	157.8	163.5	165.4	170.2	*169.7*
145°	151.8	149.8	159.2	156.4	156.6	161.0	158.9	164.3	*163.8*
147.5°	148.0	146.7	154.6	153.2	153.2	156.4	154.4	159.2	*158.6*
150°	145.0	143.6	150.8	149.3	150.0	152.6	149.3	154.6	*155.5*
152.5°	141.9	139.8	146.3	144.8	145.5	148.1	145.5	151.6	*151.7*
155°	140.2	138.1	143.2	141.6	142.4	143.8	142.4	148.5	*149.3*
157.5°	139.9	137.6	141.5	140.8	140.8	142.1	141.5	147.0	*147.7*
160°	139.5	138.0	141.3	140.5	140.6	141.8	142.0	146.8	*147.5*
162.5°	139.1	137.6	141.5	140.8	140.8	140.8	141.7	146.5	*148.0*
165°	139.3	138.5	141.1	141.1	141.2	141.8	142.1	146.3	*148.5*
167.5°	139.3	138.7	141.9	141.9	142.1	141.5	143.0	147.3	*149.6*
170°	140.3	139.5	142.1	142.2	141.5	142.3	143.2	147.6	*149.8*
172.5°	141.8	141.1	144.5	143.8	143.9	143.9	145.0	148.5	*151.5*
175°	142.7	141.9	144.7	144.7	145.5	145.6	146.6	149.4	*152.4*
177.5°	144.2	143.4	144.7	144.7	144.8	146.4	147.8	150.9	*154.4*
180°	146.4	146.4	146.4	146.4	146.4	146.4	146.4	146.4	*146.4*

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

Scaled Data Report

TEST NUMBER: P1433035
CATALOG NUMBER: EHBR1-48-UNV-ASM-L850-UPL12

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	18.62	19.79	19.04	20.16	20.54	19.39	20.56	19.80	20.93	21.31
	3H	20.44	21.48	20.87	21.87	22.30	20.95	21.99	21.38	22.38	22.81
	4H	21.18	22.15	21.63	22.55	23.00	21.60	22.57	22.05	22.97	23.42
	6H	21.75	22.64	22.21	23.07	23.52	22.10	22.99	22.56	23.41	23.87
	8H	21.94	22.78	22.41	23.22	23.69	22.26	23.10	22.73	23.54	24.01
	12H	22.04	22.84	22.52	23.28	23.77	22.34	23.14	22.82	23.58	24.07
4H	2H	19.14	20.11	19.60	20.52	20.97	19.77	20.74	20.22	21.15	21.60
	3H	21.19	21.98	21.65	22.44	22.91	21.58	22.38	22.04	22.84	23.31
	4H	22.05	22.77	22.53	23.24	23.74	22.37	23.09	22.85	23.56	24.06
	6H	22.75	23.37	23.26	23.86	24.39	23.01	23.63	23.52	24.12	24.65
	8H	22.97	23.55	23.49	24.05	24.58	23.21	23.79	23.73	24.28	24.82
	12H	23.11	23.62	23.64	24.15	24.68	23.33	23.84	23.86	24.37	24.90
8H	4H	22.31	22.89	22.83	23.39	23.92	22.62	23.19	23.13	23.69	24.22
	6H	23.13	23.60	23.68	24.14	24.69	23.38	23.85	23.93	24.39	24.94
	8H	23.43	23.85	24.00	24.41	24.96	23.66	24.08	24.23	24.64	25.19
	12H	23.63	24.00	24.19	24.54	25.17	23.85	24.21	24.41	24.76	25.39
12H	4H	22.32	22.83	22.85	23.36	23.90	22.63	23.14	23.16	23.67	24.20
	6H	23.17	23.59	23.73	24.15	24.70	23.42	23.84	23.99	24.40	24.96
	8H	23.52	23.88	24.08	24.42	25.05	23.76	24.12	24.32	24.66	25.29

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

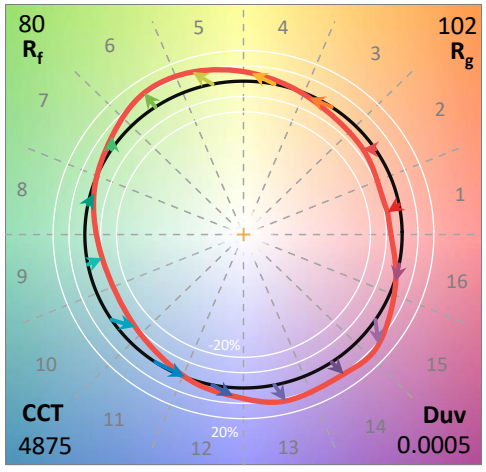
Test Information

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

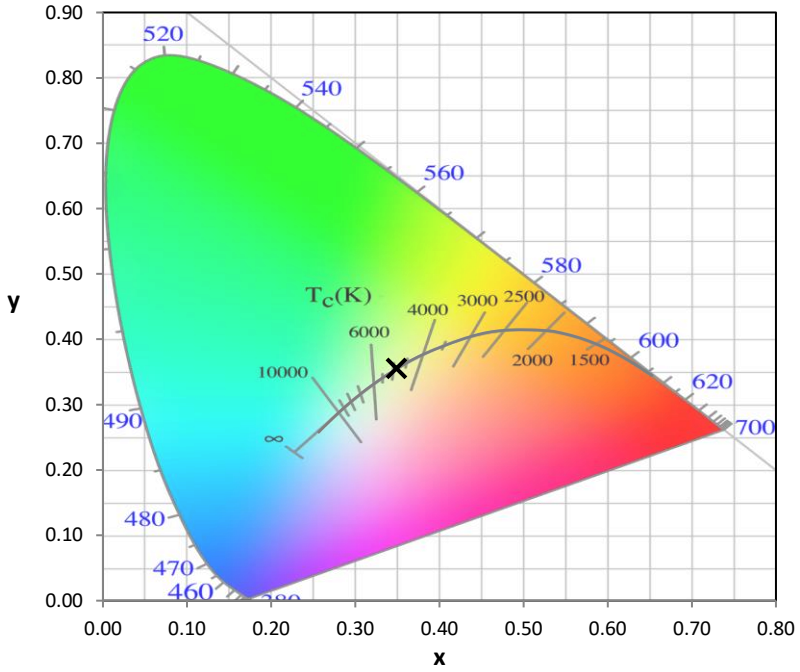
Stabilization Time:	39M
Operation Time:	1H 39M
Sphere Temperature (°C):	25.0

REPORT NUMBER: SP1-2506-472-4

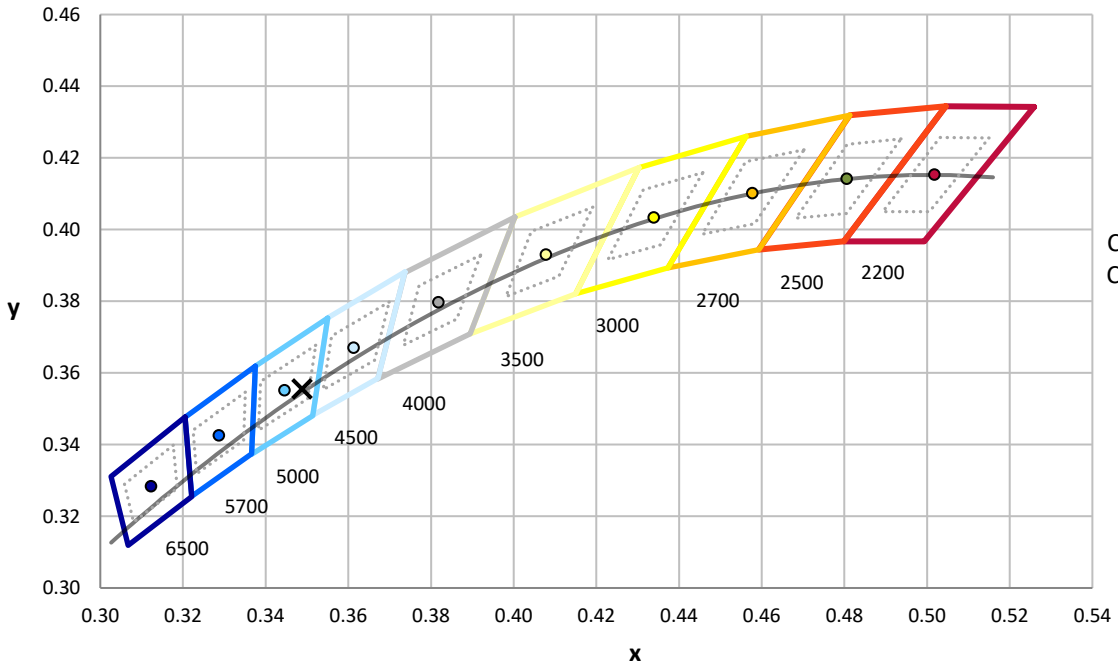
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208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

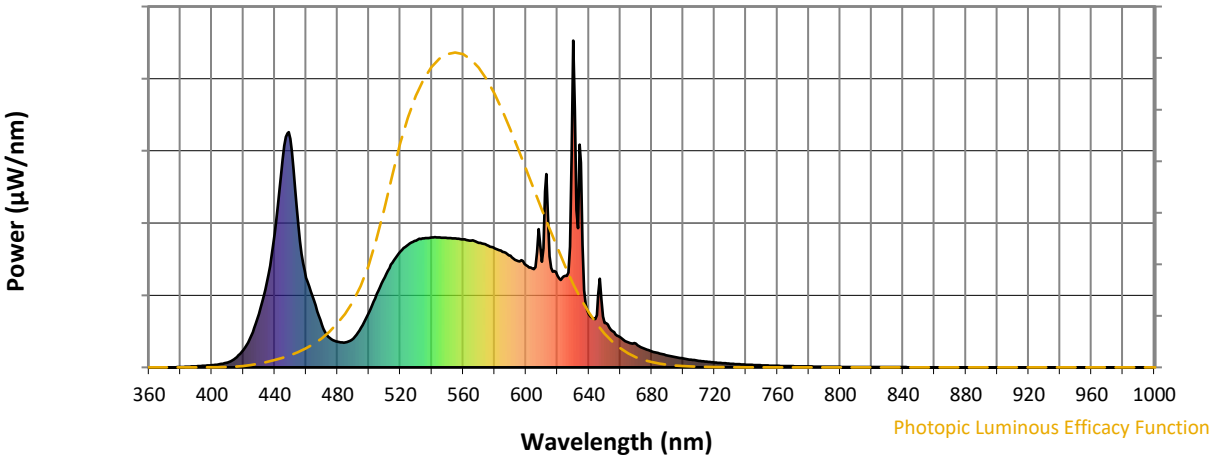


CCT = 4875K
CIE x = 0.3488
CIE y = 0.3555
Duv = 0.0005

Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-4

Photopic Flux vs. Wavelength

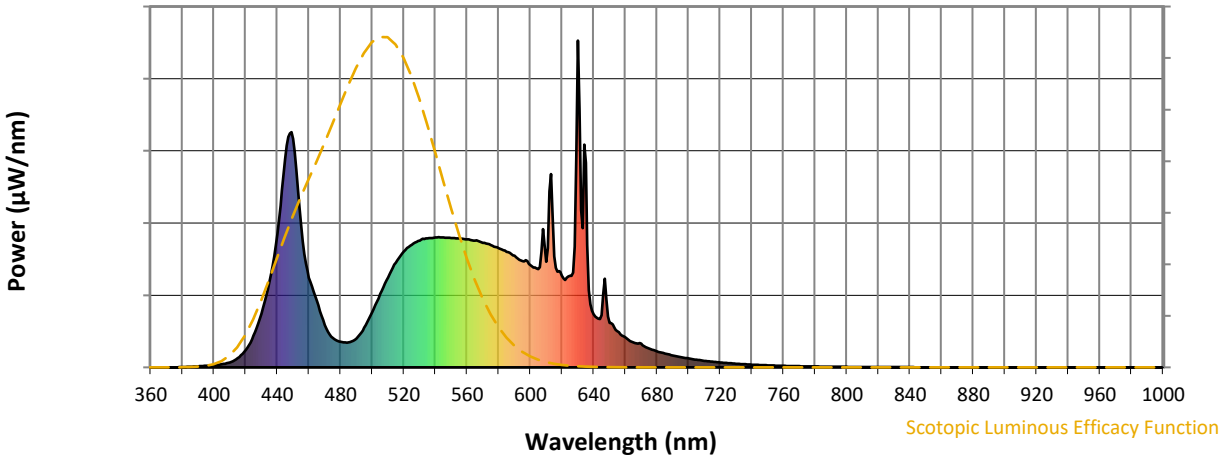


Photopic Lumens: NR

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			

REPORT NUMBER: SP1-2506-472-4

Scotopic Flux vs. Wavelength

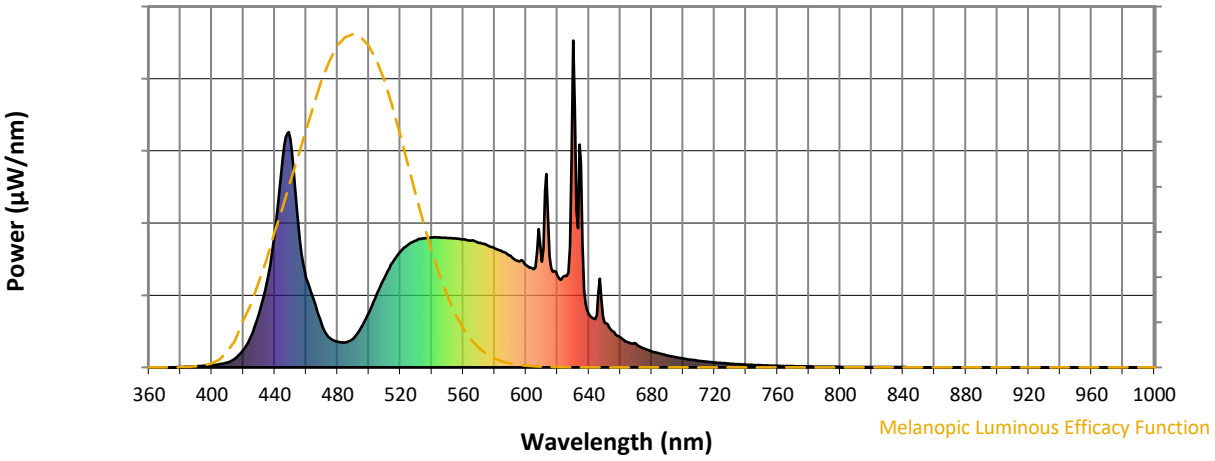


Scotopic Lumens: NR **S/P: 1.82**

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			

REPORT NUMBER: SP1-2506-472-4

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			

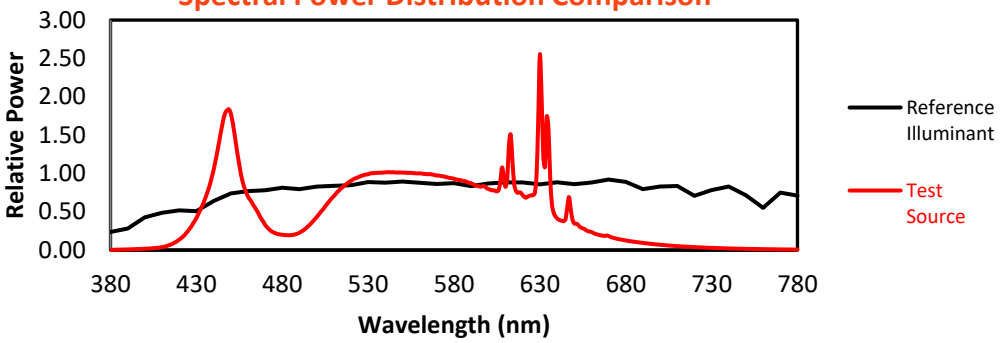
REPORT NUMBER: SP1-2506-472-4

TM-30-18

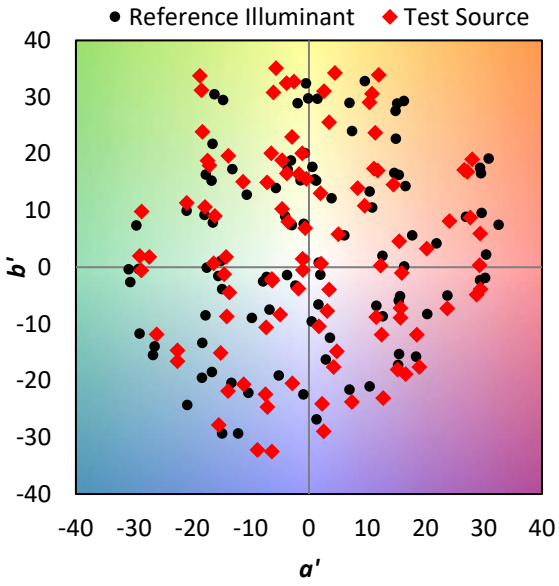
Summary

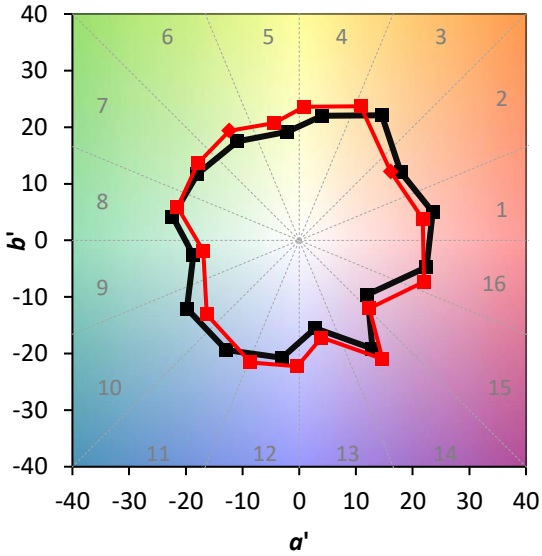
R_f = 80
R_g = 102.3
CIE R_a = 82.3
R_9 = 43.9

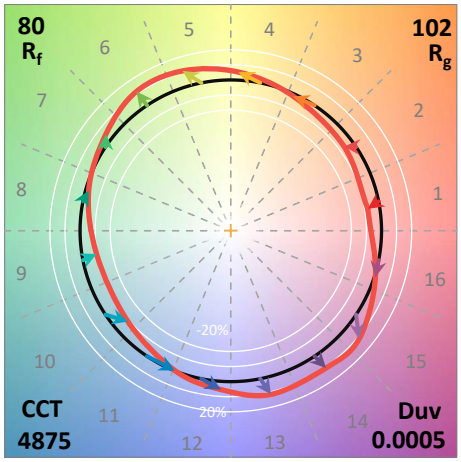
Spectral Power Distribution Comparison

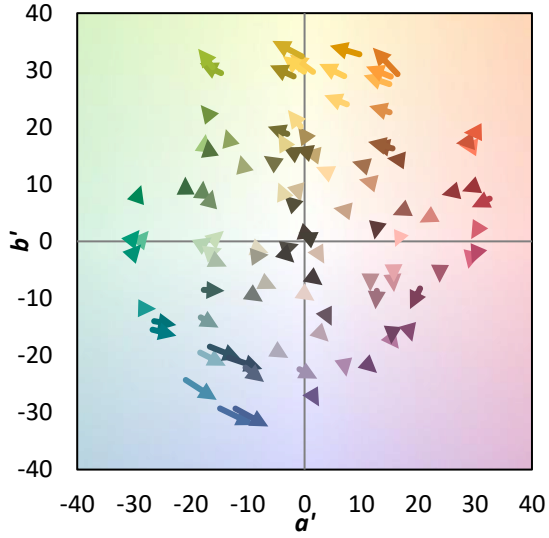


Color Vector Graphics







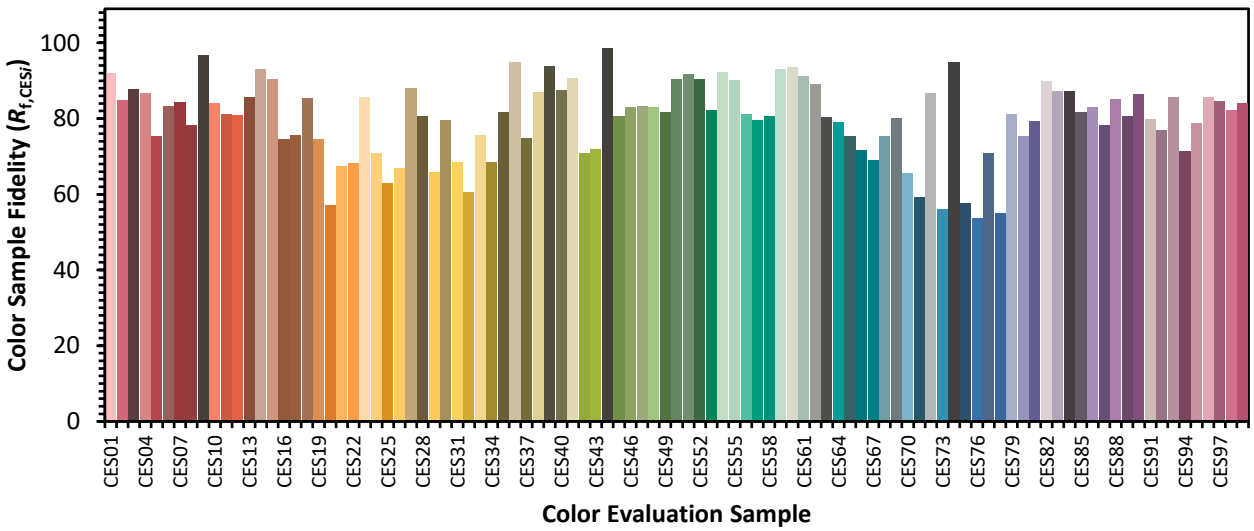


REPORT NUMBER: SP1-2506-472-4

TM-30-18

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

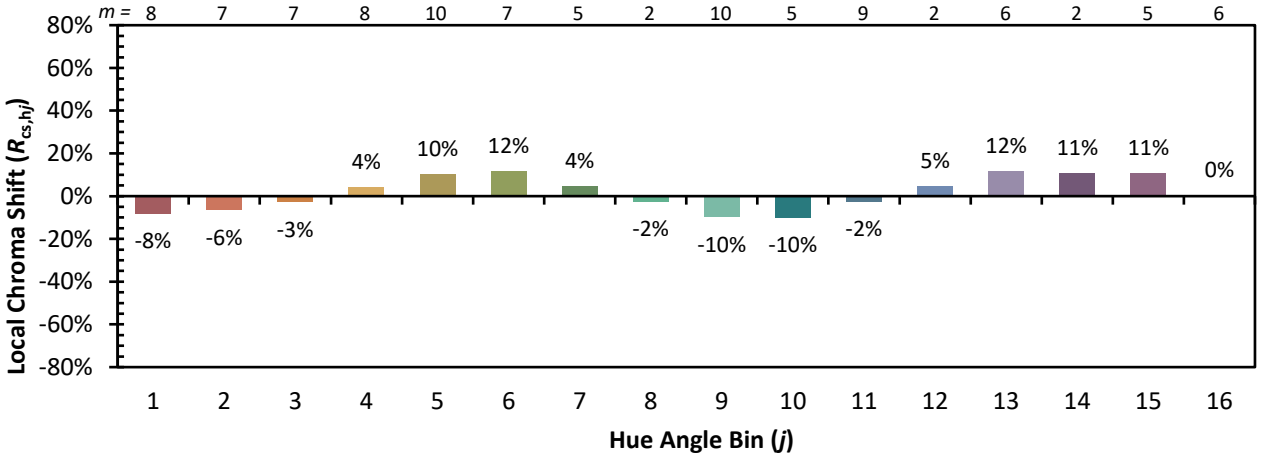
CES01 = 85	CES26 = 67	CES51 = 92	CES76 = 54
CES02 = 60	CES27 = 88	CES52 = 91	CES77 = 71
CES03 = 31	CES28 = 81	CES53 = 82	CES78 = 55
CES04 = 69	CES29 = 66	CES54 = 92	CES79 = 81
CES05 = 47	CES30 = 80	CES55 = 90	CES80 = 75
CES06 = 50	CES31 = 69	CES56 = 81	CES81 = 79
CES07 = 40	CES32 = 61	CES57 = 80	CES82 = 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	

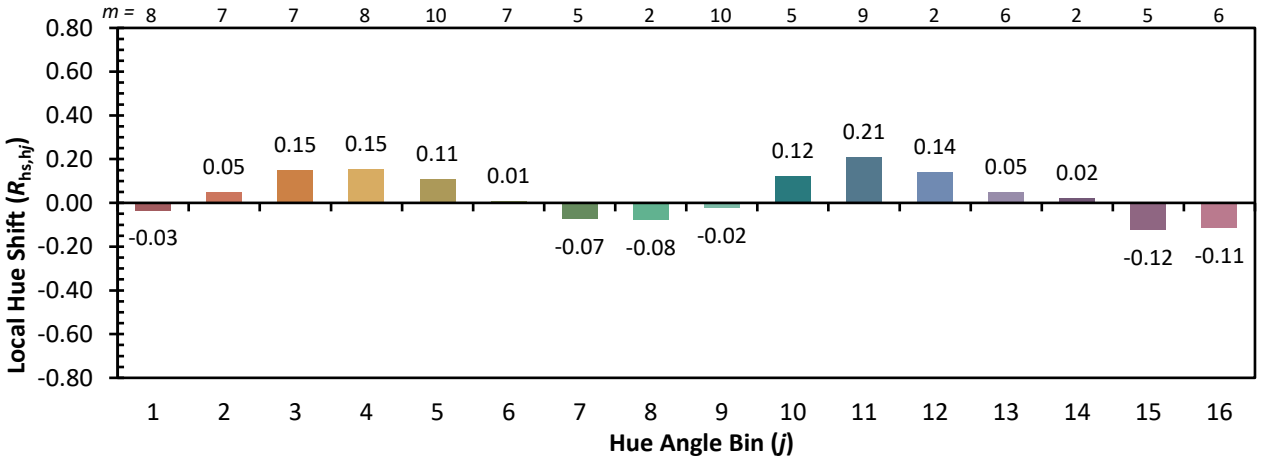


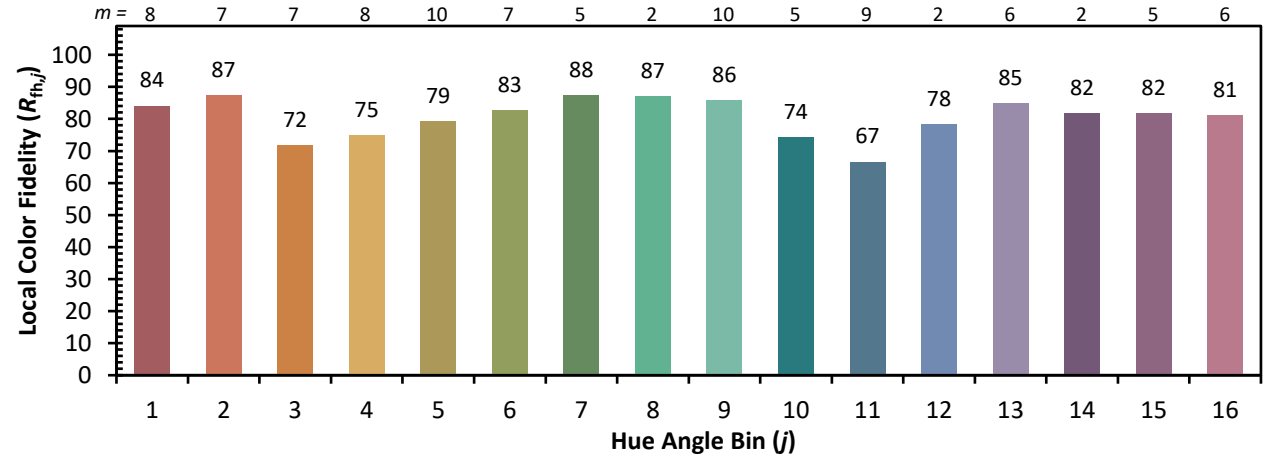
REPORT NUMBER: SP1-2506-472-4

TM-30-18

Color Rendition by Hue-Angle Bin



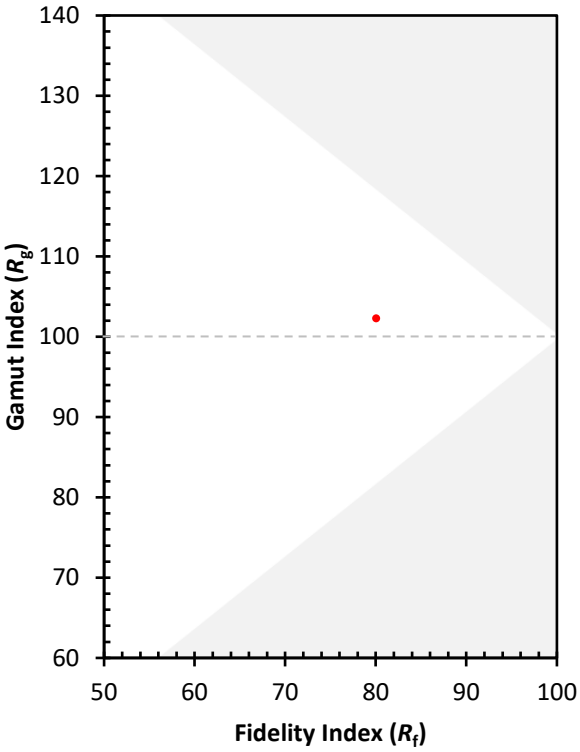


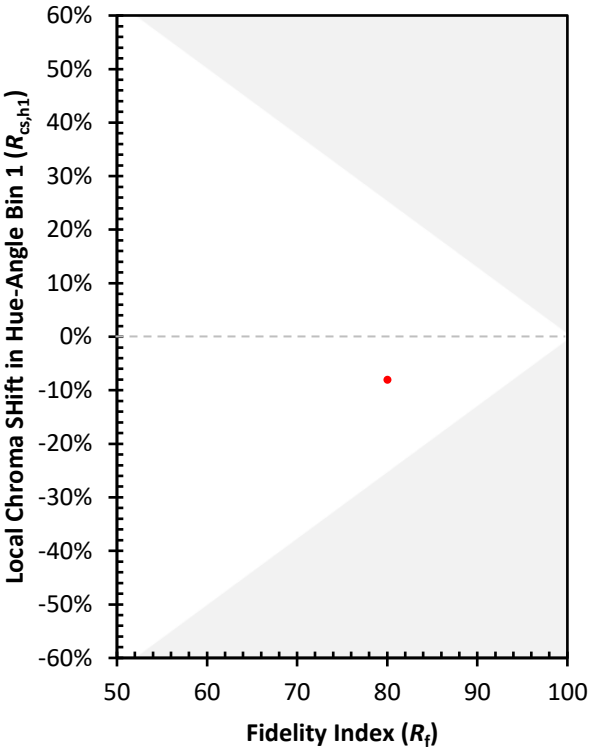


REPORT NUMBER: SP1-2506-472-4

TM-30-18

Measure Comparisons





(END OF REPORT)