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: P1432685

Luminaire Tested: EHBR1-36-UNV-ASM-L835-UPL18

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:	P1432685
	REPORT IS A COMBINATION OF REPORTS P1431774 AND P1431635
Test Lab:	INNOVATION CENTER
Issue Date:	3/20/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	METALUX
Catalog Number:	EHBR1-36-UNV-ASM-L835-UPL18
Description:	Elevate Round Highbay at, 36000 lumens, 3500K 80CRI LEDs with ASM lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	36767.4 lumens
Efficiency:	N/A
Efficacy:	180.9 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

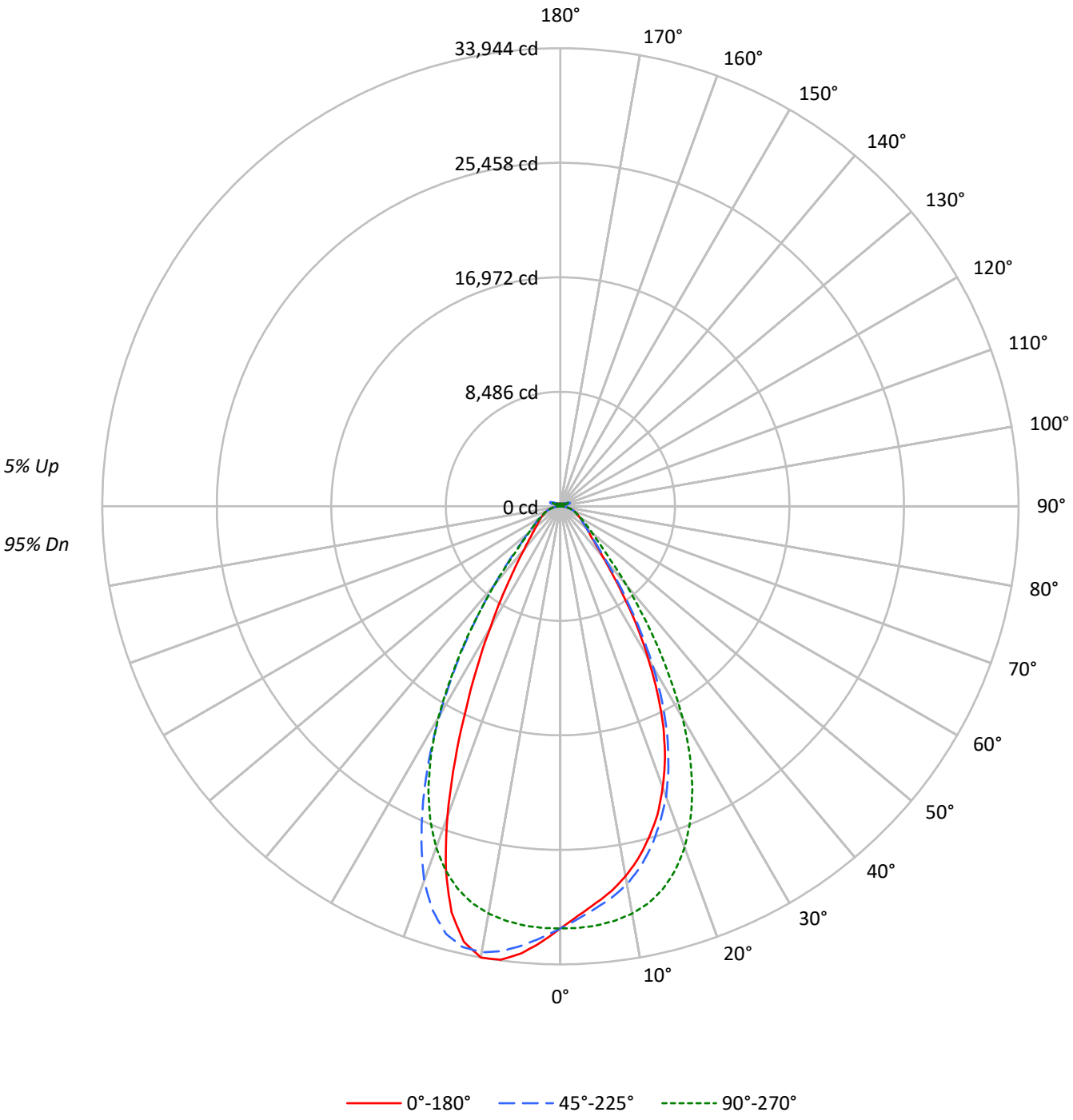
Input Watts (W):	203.3
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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

Scaled Data Report

TEST NUMBER: P1432685
CATALOG NUMBER: EHBR1-36-UNV-ASM-L835-UPL18

Luminous Intensity Polar Plot



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

Scaled Data Report

TEST NUMBER: P1432685
CATALOG NUMBER: EHBR1-36-UNV-ASM-L835-UPL18

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	108	108	108	103	103	103	98	98	98	95
1	111	107	104	101	108	105	102	99	100	97	95	95	93	92	91	89	88	86
2	104	98	93	89	101	96	91	87	91	88	85	88	85	82	84	82	80	77
3	97	90	84	79	95	88	82	78	84	80	76	81	77	74	78	75	72	70
4	91	82	76	71	89	81	75	70	78	73	69	75	71	67	73	69	66	64
5	86	76	69	64	84	75	69	64	72	67	63	70	65	62	68	64	61	59
6	81	71	64	59	79	70	63	59	68	62	58	66	61	57	64	59	56	54
7	77	66	59	54	75	65	59	54	63	57	53	62	56	53	60	55	52	50
8	72	62	55	50	71	61	54	50	59	54	49	58	53	49	56	52	48	47
9	69	58	51	47	67	57	51	47	56	50	46	54	49	46	53	49	45	44
10	65	54	48	44	64	54	48	44	53	47	43	51	46	43	50	46	42	41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	146905	146905	146905	146905	146905
5°	138433	140051	146011	153013	155766
10°	131016	133790	144216	157926	159765
15°	121023	124255	139958	156306	148471
20°	107797	111428	130896	143676	119054
25°	90339	93759	115853	120512	82488
30°	67592	71510	94068	93129	53664
35°	44997	47714	67469	66379	34754
40°	28378	30327	43620	43901	23954
45°	20219	21060	27677	28866	18555
50°	16842	16976	20554	21088	15767
55°	14866	14902	16781	17224	14364
60°	13765	13648	14531	14838	13682
65°	13140	13021	13246	13505	13195
70°	12762	12541	12555	12795	12930
75°	12133	11765	11741	12157	12508
80°	11040	10269	10314	11040	11808
85°	8039	6672	6672	7629	8429

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
Vertical Angle: 45°
Luminance: 38912 cd/sqm

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

Scaled Data Report

TEST NUMBER: P1432685
CATALOG NUMBER: EHBR1-36-UNV-ASM-L835-UPL18

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2974.5	8.1
10°-20°	8092.2	22.0
20°-30°	9490.5	25.8
30°-40°	6600.1	18.0
40°-50°	3279.9	8.9
50°-60°	1961.7	5.3
60°-70°	1380.8	3.8
70°-80°	889.4	2.4
80°-90°	285.7	0.8
90°-100°	48.7	0.1
100°-110°	313.8	0.9
110°-120°	579.0	1.6
120°-130°	344.7	0.9
130°-140°	209.4	0.6
140°-150°	145.8	0.4
150°-160°	96.1	0.3
160°-170°	56.1	0.2
170°-180°	18.9	0.1
0°-30°	20557.2	55.9
0°-40°	27157.3	73.9
0°-60°	32399.0	88.1
0°-90°	34954.8	95.1
90°-120°	941.5	2.6
90°-150°	1641.4	4.5
90°-180°	1813.0	4.9
0°-180°	36767.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	31282	31282	31282	31282	31282	
5°	29558	29903	31176	32671	33258	2772
15°	25390	26068	29362	32792	31148	7081
25°	18041	18724	23136	24066	16473	8140
35°	8259	8757	12383	12183	6379	5261
45°	3271	3408	4478	4670	3002	2644
55°	2009	2014	2268	2328	1941	1823
65°	1372	1359	1383	1410	1377	1362
75°	855	829	827	856	881	902
85°	276	229	229	262	290	284
90°	14	36	14	40	18	20
95°	22	81	26	70	26	22
105°	110	546	144	584	76	146
115°	500	646	616	716	528	461
125°	362	347	395	385	415	329
135°	265	267	251	280	291	207
145°	222	233	229	233	239	141
155°	200	206	205	205	214	93
165°	193	197	197	197	204	55
175°	195	198	198	198	204	19
180°	199	199	199	199	199	

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

Scaled Data Report

TEST NUMBER: P1432685
CATALOG NUMBER: EHBR1-36-UNV-ASM-L835-UPL18

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	31282.4	31282.4	31282.4	31282.4	31282.4	31282.4	31282.4	31282.4	31282.4
2.5°	30353.8	30373.7	30586.0	30862.3	31264.1	31668.3	31995.6	32211.5	32318.2
5°	29557.7	29668.0	29903.2	30410.7	31175.6	31985.1	32670.8	33119.6	33258.5
7.5°	28782.3	28846.3	29239.9	29880.9	30963.8	32225.0	33243.9	33767.7	33895.6
10°	27836.1	27981.0	28425.6	29181.8	30640.6	32376.3	33553.6	33929.0	33944.3
12.5°	26722.8	26914.6	27373.8	28327.7	30125.0	32322.4	33449.8	33326.6	33046.7
15°	25390.0	25558.4	26068.1	27174.5	29362.4	32002.7	32792.2	31789.7	31148.5
17.5°	23950.5	24103.0	24545.9	25764.2	28287.8	31404.3	31419.6	29436.3	28226.8
20°	22155.5	22275.2	22901.7	24097.2	26902.9	30444.7	29529.6	25902.1	24469.1
22.5°	20245.6	20357.6	20914.3	22158.5	25166.5	29150.6	26897.5	22346.8	20391.6
25°	18040.6	18101.6	18723.5	19848.5	23135.7	27565.1	24066.1	18473.0	16472.7
27.5°	15560.0	15663.7	16314.3	17463.4	20747.1	25555.4	21051.0	15095.4	13249.9
30°	13001.2	13173.1	13754.9	14783.9	18094.0	22979.1	17913.4	12021.6	10322.3
32.5°	10613.2	10736.9	11151.7	12226.9	15123.5	20453.9	14900.0	9632.4	8192.9
35°	8258.6	8382.4	8757.3	9813.1	12382.9	17294.5	12183.0	7568.8	6378.6
37.5°	6312.9	6531.7	6772.2	7629.2	9718.0	14309.3	9711.6	6094.7	5173.7
40°	4918.6	4953.8	5256.4	5804.9	7560.5	11188.6	7609.2	4865.2	4151.9
42.5°	3937.2	4032.8	4163.1	4573.6	5728.7	8555.5	5980.9	3993.0	3526.5
45°	3271.4	3308.9	3407.5	3683.2	4478.0	6295.8	4670.4	3368.8	3002.2
47.5°	2862.0	2845.5	2908.9	3115.4	3646.9	4865.8	3785.3	2889.5	2632.7
50°	2510.0	2500.0	2530.0	2667.8	3063.2	3733.7	3142.9	2522.3	2349.9
52.5°	2236.6	2245.5	2248.4	2334.1	2631.4	3045.0	2676.6	2247.8	2131.7
55°	2009.0	2020.2	2013.8	2077.1	2267.8	2559.8	2327.6	2021.4	1941.1
57.5°	1831.3	1823.2	1814.3	1848.4	1991.5	2171.6	2021.4	1828.4	1775.1
60°	1654.8	1647.1	1640.7	1663.0	1746.8	1880.7	1783.8	1660.0	1644.8
62.5°	1503.4	1498.8	1498.2	1494.0	1558.6	1643.1	1577.3	1508.7	1495.2
65°	1371.5	1366.1	1359.1	1352.6	1382.6	1461.2	1409.6	1372.6	1377.3
67.5°	1239.5	1239.5	1227.2	1217.2	1246.5	1287.6	1265.3	1244.1	1249.5
70°	1119.8	1120.4	1100.4	1092.9	1101.6	1145.6	1122.7	1125.6	1134.5
72.5°	991.3	977.3	962.6	962.0	963.2	997.2	989.6	996.6	1006.0
75°	854.7	838.2	828.8	818.3	827.1	852.9	856.4	866.4	881.1
77.5°	722.7	697.4	689.9	684.5	678.7	708.0	719.1	732.6	754.3
80°	580.8	553.1	540.2	532.7	542.6	556.1	580.8	590.7	621.2
82.5°	429.4	408.8	393.0	392.4	397.1	409.4	430.6	449.4	466.9
85°	276.3	243.4	229.3	234.7	229.3	248.1	262.2	284.5	289.7
87.5°	99.7	78.1	74.5	82.1	80.4	86.2	98.5	107.3	107.9
90°	13.5	21.4	36.4	23.5	13.5	23.0	39.5	23.4	17.6
92.5°	19.5	32.4	58.2	30.4	17.5	30.9	55.4	30.4	22.5
95°	22.4	37.3	81.1	40.3	26.0	37.9	70.3	33.3	26.5
97.5°	29.0	41.3	93.0	49.3	40.0	46.8	79.2	35.3	31.5
100°	37.9	48.3	144.7	60.8	52.8	52.8	143.9	40.2	35.5
102.5°	63.8	101.9	306.7	113.5	79.7	103.1	332.3	78.6	42.4
105°	109.5	214.3	546.2	236.7	144.3	234.3	583.8	198.9	75.8
107.5°	189.0	383.2	720.7	418.6	272.5	436.1	751.7	389.7	172.2
110°	352.0	508.4	755.5	574.7	435.5	609.0	820.3	532.9	345.1

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

Scaled Data Report

TEST NUMBER: P1432685
CATALOG NUMBER: EHBR1-36-UNV-ASM-L835-UPL18

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	475.3	546.2	723.7	634.3	566.7	678.6	801.4	590.5	*476.3*
115°	500.1	525.4	646.2	619.4	616.0	668.6	715.9	588.5	*528.0*
117.5°	483.2	479.6	548.8	557.3	595.1	612.0	618.6	552.7	*531.0*
120°	447.4	427.0	458.4	486.8	537.4	530.5	521.7	500.0	*501.1*
122.5°	402.7	378.9	393.3	414.7	465.5	450.5	441.2	446.9	*460.4*
125°	361.5	337.1	347.2	352.8	394.9	380.0	385.2	401.2	*415.3*
127.5°	324.8	308.3	314.4	309.0	335.8	328.9	344.3	362.5	*374.5*
130°	299.9	286.0	294.1	280.8	293.7	295.1	315.5	331.3	*338.7*
132.5°	279.7	270.6	280.3	264.1	267.4	274.8	294.3	308.0	*312.6*
135°	264.7	257.4	267.4	252.7	251.2	261.9	280.0	288.5	*290.7*
137.5°	252.4	246.0	256.7	245.3	241.7	252.5	266.1	273.2	*271.9*
140°	241.7	236.2	247.4	238.4	236.4	247.2	253.1	261.2	*260.6*
142.5°	229.8	225.8	239.0	233.1	231.1	240.8	243.8	250.0	*248.6*
145°	222.2	219.2	232.7	229.1	228.8	236.1	233.4	241.1	*239.2*
147.5°	215.4	213.4	225.4	223.7	223.7	229.1	226.1	232.7	*230.9*
150°	209.6	207.6	219.0	217.4	218.4	222.4	217.8	225.4	*225.5*
152.5°	203.8	201.2	211.6	210.0	211.0	215.0	211.0	219.5	*219.2*
155°	200.0	197.4	205.8	204.6	205.2	207.2	205.2	213.7	*214.3*
157.5°	197.7	195.6	202.0	201.4	201.4	203.0	202.0	209.6	*210.1*
160°	196.0	194.3	199.8	199.2	198.8	200.7	200.3	206.8	*207.4*
162.5°	194.1	192.6	198.9	197.9	197.9	197.9	198.1	204.6	*205.8*
165°	193.3	192.7	197.1	197.1	196.7	197.7	196.9	202.1	*204.2*
167.5°	193.3	192.3	197.2	197.2	196.9	195.9	197.1	201.9	*204.0*
170°	193.5	192.9	196.9	196.5	195.5	196.2	196.3	201.0	*203.2*
172.5°	194.7	194.1	198.7	197.7	197.3	197.3	197.0	200.8	*203.9*
175°	194.9	194.3	197.9	197.9	198.5	198.0	198.2	200.9	*204.1*
177.5°	196.5	195.9	197.9	197.9	197.4	198.6	199.8	202.6	*206.6*
180°	198.6	198.6	198.6	198.6	198.6	198.6	198.6	198.6	*198.6*

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

Scaled Data Report

TEST NUMBER: P1432685
CATALOG NUMBER: EHBR1-36-UNV-ASM-L835-UPL18

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	17.44	18.57	17.89	18.98	19.43	18.20	19.33	18.65	19.75	20.19
	3H	19.25	20.26	19.72	20.69	21.18	19.76	20.77	20.23	21.20	21.69
	4H	19.99	20.93	20.48	21.38	21.89	20.41	21.35	20.90	21.80	22.31
	6H	20.56	21.42	21.06	21.89	22.41	20.90	21.77	21.41	22.24	22.75
	8H	20.74	21.56	21.26	22.05	22.57	21.06	21.88	21.58	22.37	22.89
	12H	20.84	21.62	21.36	22.10	22.65	21.14	21.92	21.66	22.40	22.95
4H	2H	17.95	18.89	18.44	19.34	19.85	18.58	19.52	19.07	19.97	20.48
	3H	19.99	20.77	20.49	21.27	21.79	20.39	21.16	20.89	21.67	22.19
	4H	20.86	21.55	21.38	22.07	22.63	21.18	21.87	21.70	22.39	22.95
	6H	21.55	22.15	22.10	22.69	23.27	21.81	22.41	22.36	22.95	23.53
	8H	21.78	22.34	22.33	22.88	23.46	22.02	22.58	22.57	23.11	23.70
	12H	21.91	22.41	22.48	22.98	23.57	22.13	22.63	22.70	23.20	23.79
8H	4H	21.12	21.68	21.67	22.21	22.80	21.42	21.98	21.97	22.52	23.11
	6H	21.93	22.39	22.52	22.98	23.57	22.18	22.64	22.77	23.23	23.82
	8H	22.23	22.64	22.84	23.24	23.85	22.47	22.87	23.07	23.47	24.08
	12H	22.44	22.79	23.04	23.37	24.06	22.65	23.01	23.25	23.59	24.27
12H	4H	21.12	21.62	21.70	22.19	22.78	21.43	21.92	22.00	22.50	23.09
	6H	21.97	22.38	22.58	22.98	23.58	22.23	22.63	22.83	23.23	23.84
	8H	22.32	22.67	22.92	23.25	23.94	22.56	22.91	23.16	23.49	24.18

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: SP1-2506-472-3

Test Date: 07/31/2025

Luminaire Tested: EHBR-60-L835-N

Data in this report applies to families of products including EHBR-60-L835-N

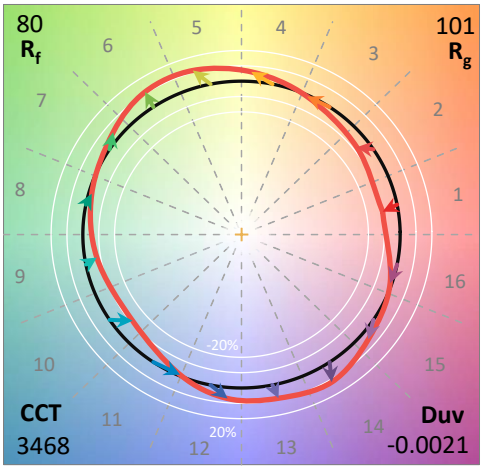
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2506-472-3
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-L835-N**
Description:	Elevate Round Highbay at, 60000 lumens, 3500K 80CRI LEDs with N lens

Spectral Parameters

CCT (K):	3468	CRI (Ra):	82.1		
CIE u':	0.2375	R1:	82.9	R9:	27.6
CIE v':	0.5091	R2:	85.6	R10:	63.8
Duv:	-0.0021	R3:	85.9	R11:	81.2
CIE x:	0.4049	R4:	82.8	R12:	57.2
CIE y:	0.3856	R5:	81.0	R13:	82.6
CIE z:	0.2095	R6:	79.7	R14:	91.0
Peak Wavelength (nm):	630	R7:	86.5	R15:	79.4
Dominant Wavelength (nm):	581	R8:	72.1		
Purity:	37.24544				
Rf:	80.1				
Rg:	101				



Test Conditions

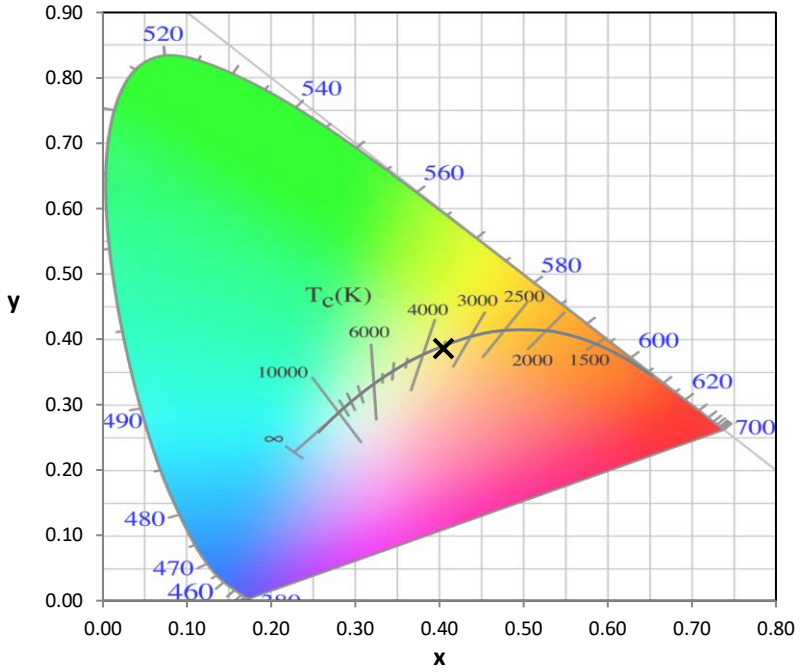
Stabilization Time:	39M
Operation Time:	1H 39M
Sphere Temperature (°C):	25.0

REPORT NUMBER: SP1-2506-472-3

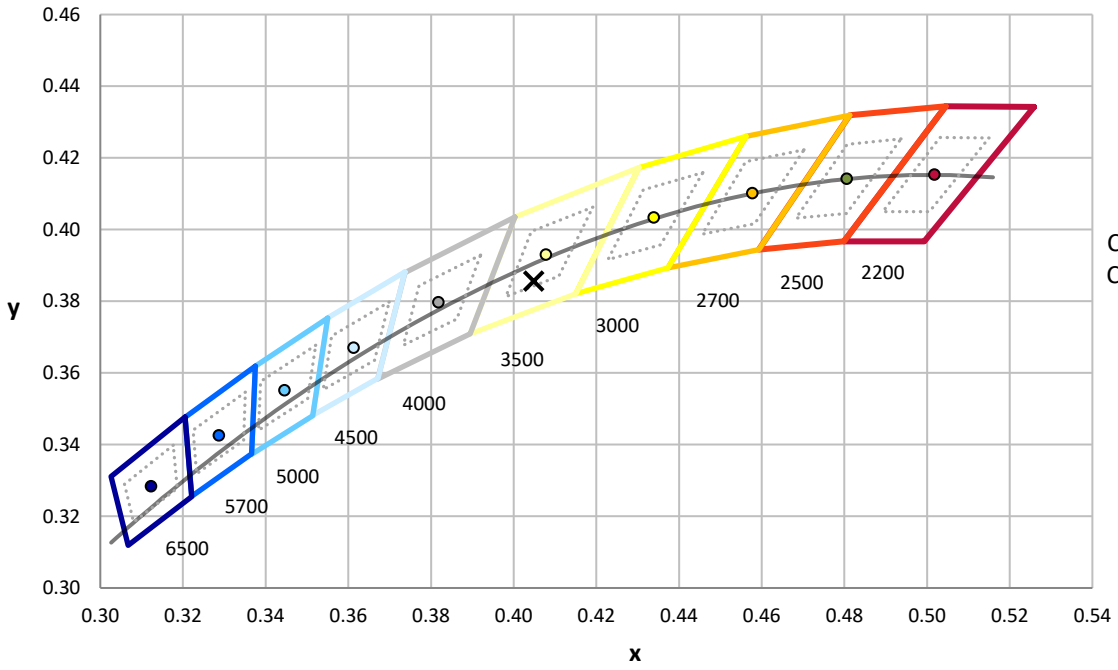
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208	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: SP1-2506-472-3

CIE 1931 Chromaticity Diagram



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

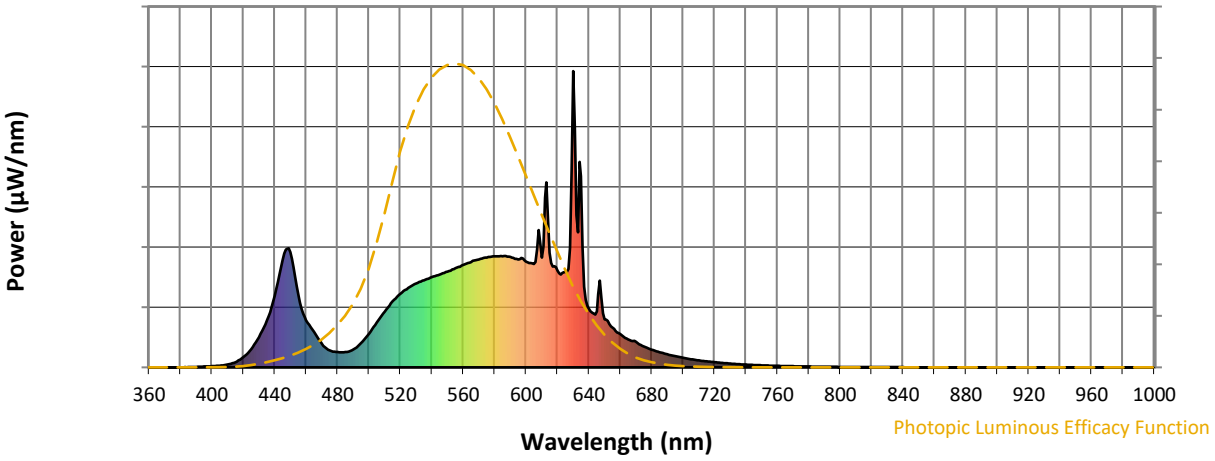


CCT = 3468K
CIE x = 0.4049
CIE y = 0.3856
Duv = -0.0021

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-3

Photopic Flux vs. Wavelength

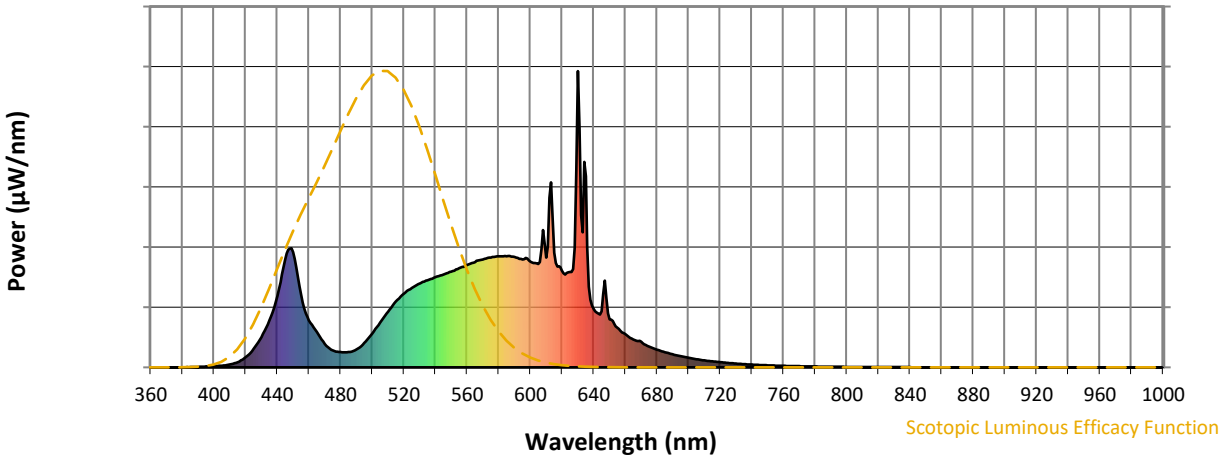


Photopic Lumens: NR

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	60	NR	620	327	NR	750	7	NR	880	0	NR
365	0	NR	495	82	NR	625	322	NR	755	6	NR	885	0	NR
370	0	NR	500	114	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	152	NR	635	645	NR	765	4	NR	895	0	NR
380	0	NR	510	189	NR	640	197	NR	770	4	NR	900	0	NR
385	1	NR	515	222	NR	645	189	NR	775	3	NR	905	0	NR
390	2	NR	520	248	NR	650	163	NR	780	3	NR	910	0	NR
395	3	NR	525	268	NR	655	134	NR	785	2	NR	915	0	NR
400	4	NR	530	283	NR	660	113	NR	790	2	NR	920	0	NR
405	6	NR	535	294	NR	665	94	NR	795	2	NR	925	0	NR
410	9	NR	540	305	NR	670	87	NR	800	2	NR	930	0	NR
415	18	NR	545	314	NR	675	70	NR	805	1	NR	935	0	NR
420	34	NR	550	323	NR	680	60	NR	810	1	NR	940	0	NR
425	62	NR	555	335	NR	685	51	NR	815	1	NR	945	0	NR
430	102	NR	560	346	NR	690	44	NR	820	1	NR	950	0	NR
435	159	NR	565	356	NR	695	38	NR	825	1	NR	955	0	NR
440	241	NR	570	364	NR	700	32	NR	830	1	NR	960	0	NR
445	363	NR	575	371	NR	705	28	NR	835	1	NR	965	0	NR
450	389	NR	580	375	NR	710	24	NR	840	1	NR	970	0	NR
455	245	NR	585	375	NR	715	20	NR	845	0	NR	975	0	NR
460	158	NR	590	373	NR	720	17	NR	850	0	NR	980	0	NR
465	120	NR	595	364	NR	725	15	NR	855	0	NR	985	0	NR
470	79	NR	600	357	NR	730	13	NR	860	0	NR	990	0	NR
475	57	NR	605	349	NR	735	11	NR	865	0	NR	995	0	NR
480	51	NR	610	371	NR	740	9	NR	870	0	NR	1000	0	NR
485	51	NR	615	387	NR	745	8	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-3

Scotopic Flux vs. Wavelength

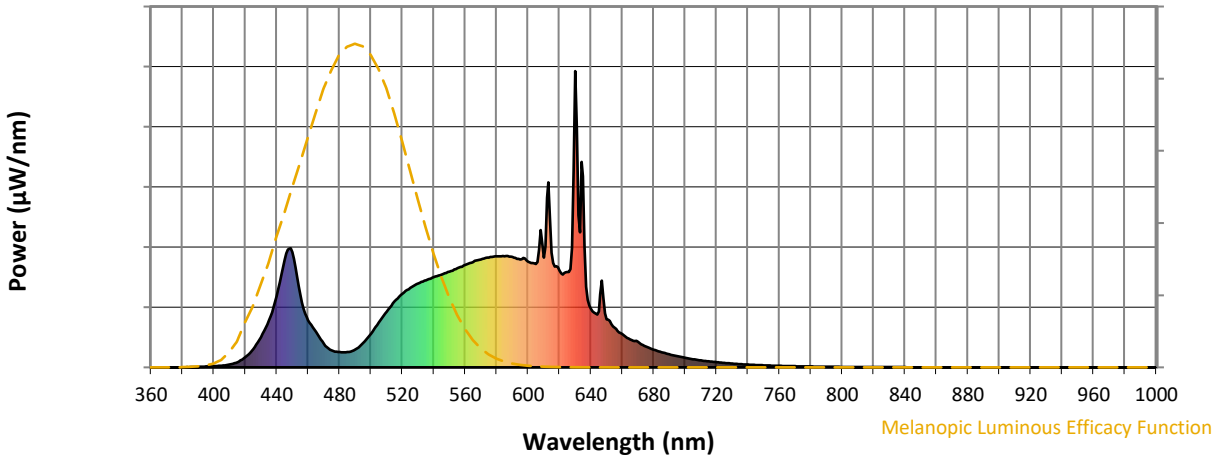


Scotopic Lumens: NR **S/P: 1.43**

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	60	NR	620	327	NR	750	7	NR	880	0	NR
365	0	NR	495	82	NR	625	322	NR	755	6	NR	885	0	NR
370	0	NR	500	114	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	152	NR	635	645	NR	765	4	NR	895	0	NR
380	0	NR	510	189	NR	640	197	NR	770	4	NR	900	0	NR
385	1	NR	515	222	NR	645	189	NR	775	3	NR	905	0	NR
390	2	NR	520	248	NR	650	163	NR	780	3	NR	910	0	NR
395	3	NR	525	268	NR	655	134	NR	785	2	NR	915	0	NR
400	4	NR	530	283	NR	660	113	NR	790	2	NR	920	0	NR
405	6	NR	535	294	NR	665	94	NR	795	2	NR	925	0	NR
410	9	NR	540	305	NR	670	87	NR	800	2	NR	930	0	NR
415	18	NR	545	314	NR	675	70	NR	805	1	NR	935	0	NR
420	34	NR	550	323	NR	680	60	NR	810	1	NR	940	0	NR
425	62	NR	555	335	NR	685	51	NR	815	1	NR	945	0	NR
430	102	NR	560	346	NR	690	44	NR	820	1	NR	950	0	NR
435	159	NR	565	356	NR	695	38	NR	825	1	NR	955	0	NR
440	241	NR	570	364	NR	700	32	NR	830	1	NR	960	0	NR
445	363	NR	575	371	NR	705	28	NR	835	1	NR	965	0	NR
450	389	NR	580	375	NR	710	24	NR	840	1	NR	970	0	NR
455	245	NR	585	375	NR	715	20	NR	845	0	NR	975	0	NR
460	158	NR	590	373	NR	720	17	NR	850	0	NR	980	0	NR
465	120	NR	595	364	NR	725	15	NR	855	0	NR	985	0	NR
470	79	NR	600	357	NR	730	13	NR	860	0	NR	990	0	NR
475	57	NR	605	349	NR	735	11	NR	865	0	NR	995	0	NR
480	51	NR	610	371	NR	740	9	NR	870	0	NR	1000	0	NR
485	51	NR	615	387	NR	745	8	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-3

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.75**

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	60	NR	620	327	NR	750	7	NR	880	0	NR
365	0	NR	495	82	NR	625	322	NR	755	6	NR	885	0	NR
370	0	NR	500	114	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	152	NR	635	645	NR	765	4	NR	895	0	NR
380	0	NR	510	189	NR	640	197	NR	770	4	NR	900	0	NR
385	1	NR	515	222	NR	645	189	NR	775	3	NR	905	0	NR
390	2	NR	520	248	NR	650	163	NR	780	3	NR	910	0	NR
395	3	NR	525	268	NR	655	134	NR	785	2	NR	915	0	NR
400	4	NR	530	283	NR	660	113	NR	790	2	NR	920	0	NR
405	6	NR	535	294	NR	665	94	NR	795	2	NR	925	0	NR
410	9	NR	540	305	NR	670	87	NR	800	2	NR	930	0	NR
415	18	NR	545	314	NR	675	70	NR	805	1	NR	935	0	NR
420	34	NR	550	323	NR	680	60	NR	810	1	NR	940	0	NR
425	62	NR	555	335	NR	685	51	NR	815	1	NR	945	0	NR
430	102	NR	560	346	NR	690	44	NR	820	1	NR	950	0	NR
435	159	NR	565	356	NR	695	38	NR	825	1	NR	955	0	NR
440	241	NR	570	364	NR	700	32	NR	830	1	NR	960	0	NR
445	363	NR	575	371	NR	705	28	NR	835	1	NR	965	0	NR
450	389	NR	580	375	NR	710	24	NR	840	1	NR	970	0	NR
455	245	NR	585	375	NR	715	20	NR	845	0	NR	975	0	NR
460	158	NR	590	373	NR	720	17	NR	850	0	NR	980	0	NR
465	120	NR	595	364	NR	725	15	NR	855	0	NR	985	0	NR
470	79	NR	600	357	NR	730	13	NR	860	0	NR	990	0	NR
475	57	NR	605	349	NR	735	11	NR	865	0	NR	995	0	NR
480	51	NR	610	371	NR	740	9	NR	870	0	NR	1000	0	NR
485	51	NR	615	387	NR	745	8	NR	875	0	NR			

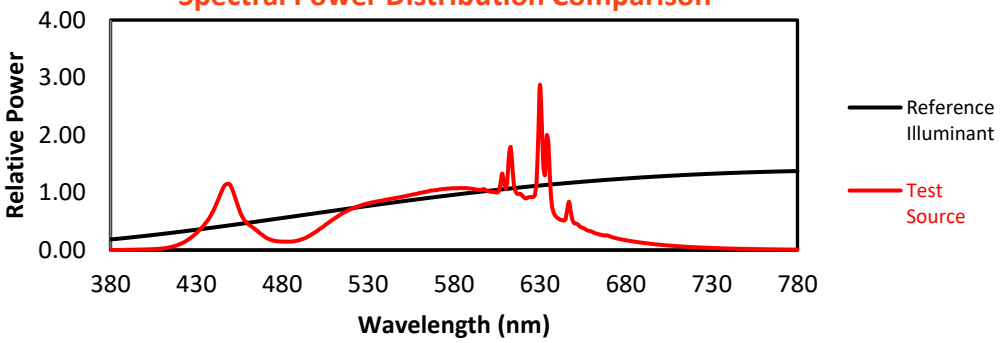
REPORT NUMBER: SP1-2506-472-3

TM-30-18

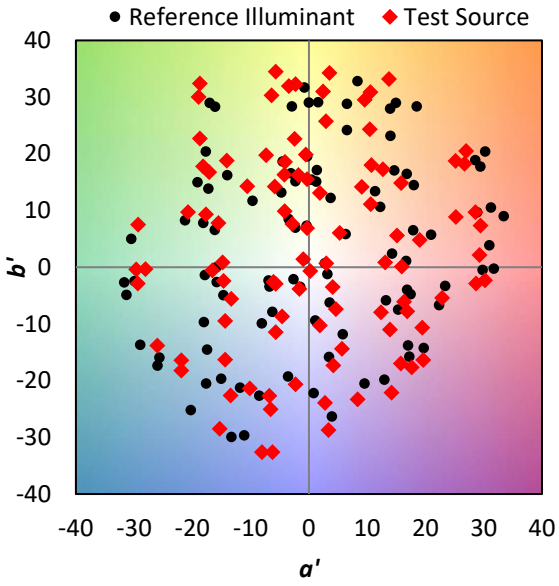
Summary

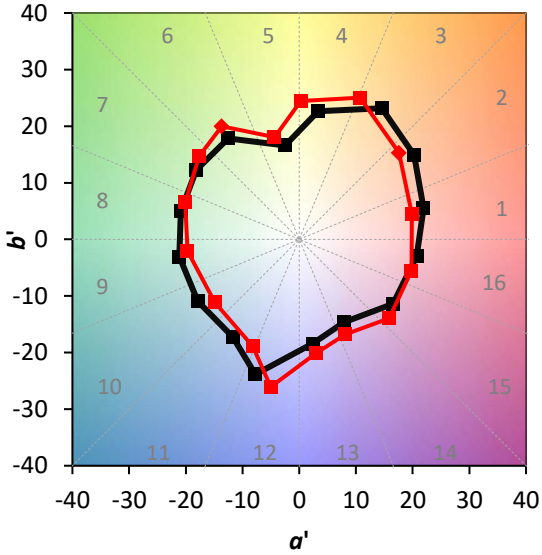
R_f = 80.1
R_g = 101
CIE R_a = 82.1
R_9 = 27.6

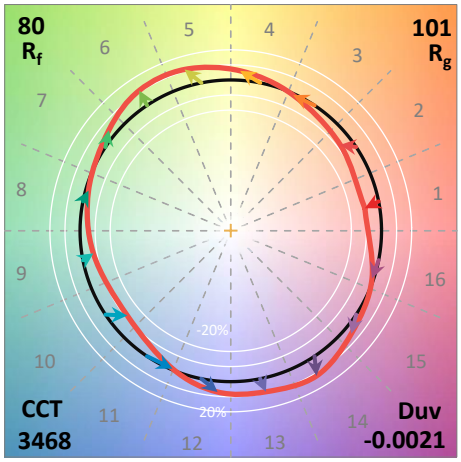
Spectral Power Distribution Comparison

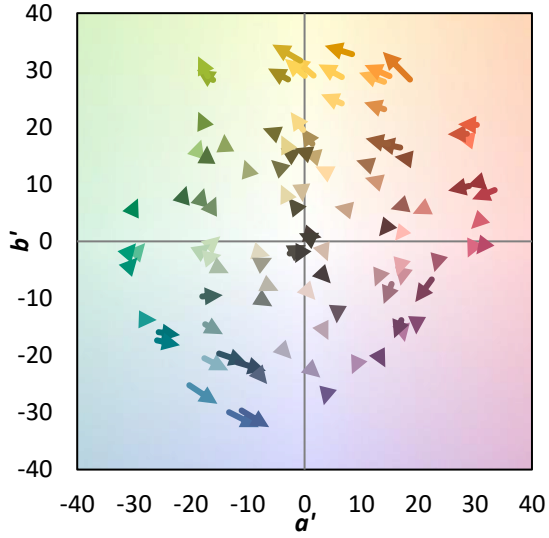


Color Vector Graphics







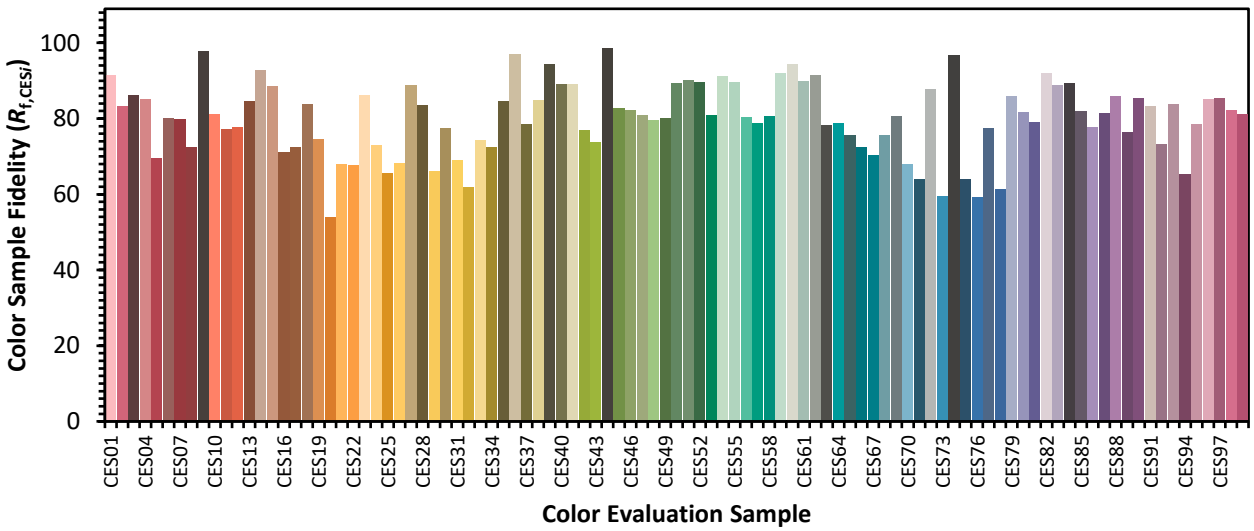


REPORT NUMBER: SP1-2506-472-3

TM-30-18

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

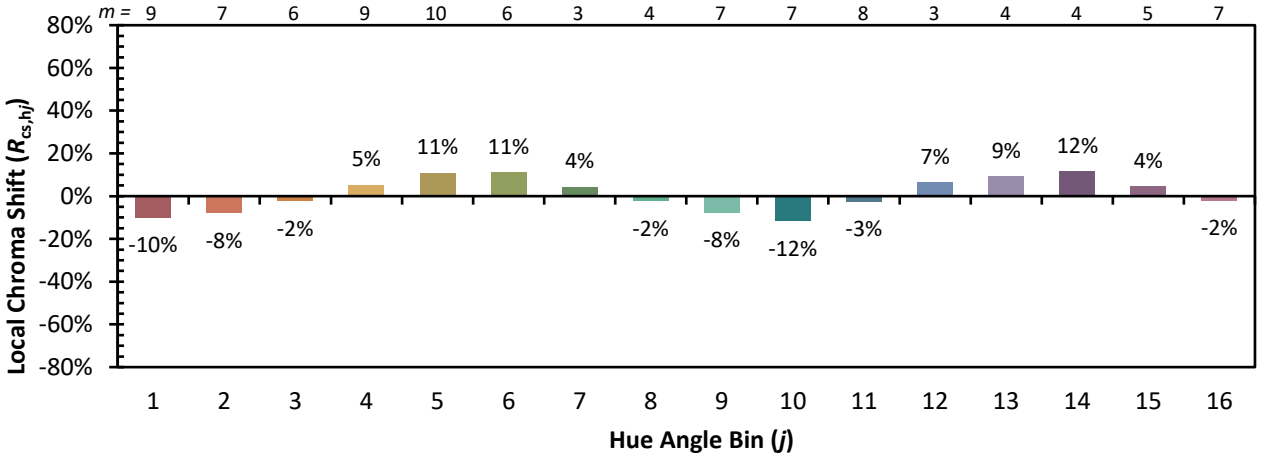
CES01 = 86	CES26 = 68	CES51 = 90	CES76 = 59
CES02 = 62	CES27 = 89	CES52 = 90	CES77 = 78
CES03 = 31	CES28 = 84	CES53 = 81	CES78 = 61
CES04 = 70	CES29 = 66	CES54 = 91	CES79 = 86
CES05 = 49	CES30 = 77	CES55 = 90	CES80 = 82
CES06 = 51	CES31 = 69	CES56 = 80	CES81 = 79
CES07 = 42	CES32 = 62	CES57 = 79	CES82 = 92
CES08 = 41	CES33 = 74	CES58 = 81	CES83 = 89
CES09 = 29	CES34 = 72	CES59 = 92	CES84 = 89
CES10 = 75	CES35 = 85	CES60 = 94	CES85 = 82
CES11 = 58	CES36 = 97	CES61 = 90	CES86 = 78
CES12 = 64	CES37 = 79	CES62 = 92	CES87 = 82
CES13 = 43	CES38 = 85	CES63 = 78	CES88 = 86
CES14 = 74	CES39 = 94	CES64 = 79	CES89 = 76
CES15 = 71	CES40 = 89	CES65 = 76	CES90 = 85
CES16 = 47	CES41 = 89	CES66 = 73	CES91 = 83
CES17 = 49	CES42 = 77	CES67 = 70	CES92 = 73
CES18 = 56	CES43 = 74	CES68 = 76	CES93 = 84
CES19 = 72	CES44 = 99	CES69 = 81	CES94 = 65
CES20 = 66	CES45 = 83	CES70 = 68	CES95 = 79
CES21 = 86	CES46 = 82	CES71 = 64	CES96 = 85
CES22 = 78	CES47 = 81	CES72 = 88	CES97 = 85
CES23 = 92	CES48 = 80	CES73 = 60	CES98 = 82
CES24 = 91	CES49 = 80	CES74 = 97	CES99 = 81
CES25 = 72	CES50 = 89	CES75 = 64	

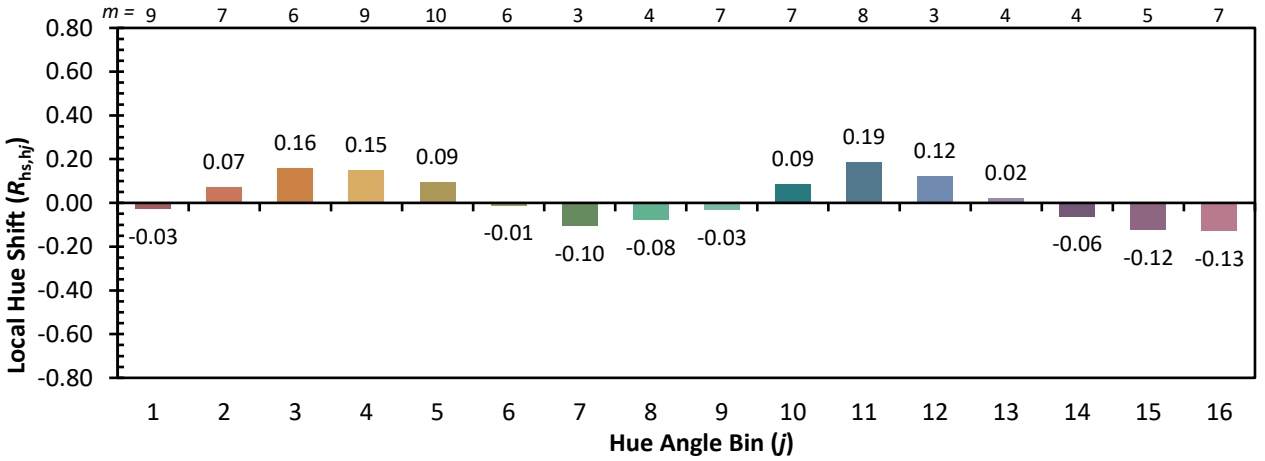


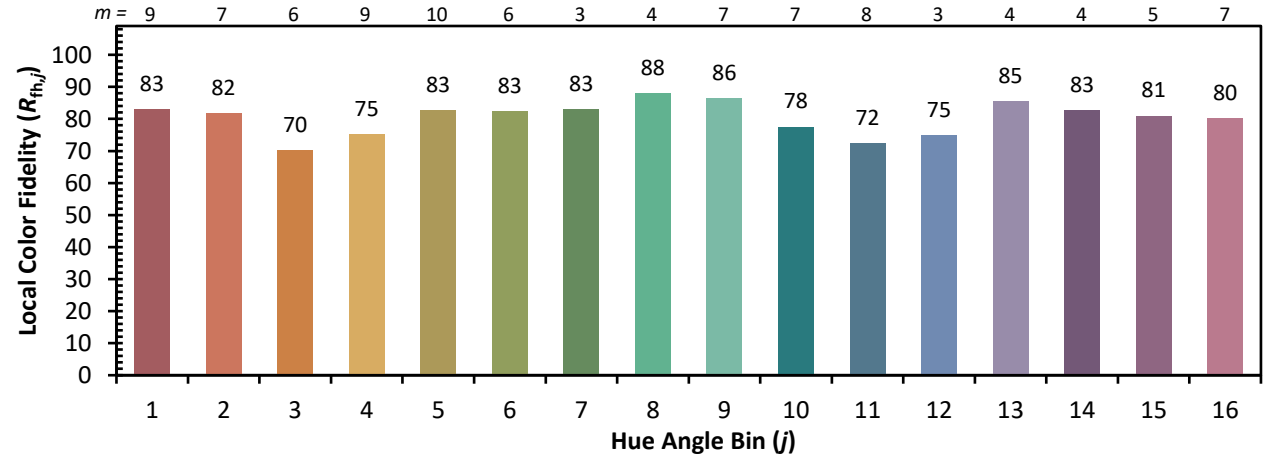
REPORT NUMBER: SP1-2506-472-3

TM-30-18

Color Rendition by Hue-Angle Bin



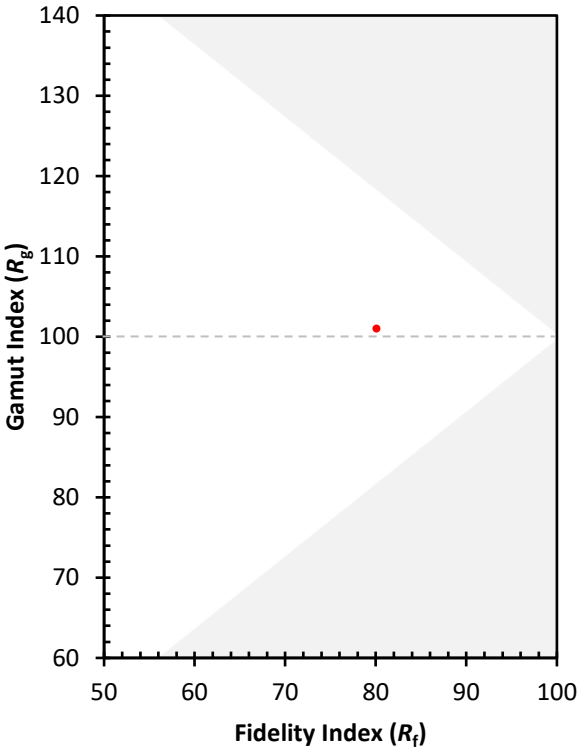


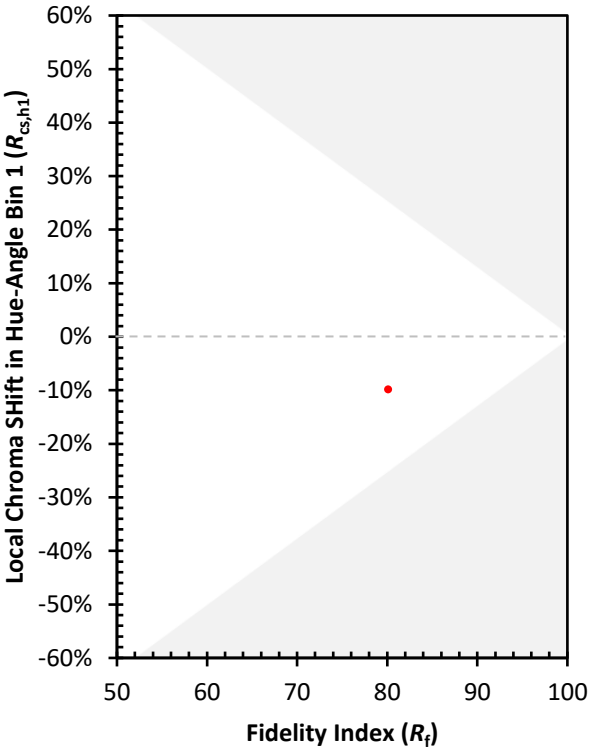


REPORT NUMBER: SP1-2506-472-3

TM-30-18

Measure Comparisons





(END OF REPORT)