Classified

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

Scaled data based on original data using

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P981629

Luminaire Tested: **2WNLED-LD4-28SL-F-UNV-L835-CD1-U**

Issue Date: 04/17/2025

Report Generated By 670245763 / DESKTOP-DVLU35A

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Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P981629
Test Lab:	INNOVATION CENTER(P3)
Issue Date:	04/17/2025
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	METALUX
Catalog Number:	2WNLED-LD4-28SL-F-UNV-L835-CD1-U
Description:	METALUX 2FT WNLED WRAPAROUND 2800LM PACKAGE 80CRI 3500K TROFFER
Light Source:	3500K CCT, 80+ CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	2708.9 lumens
Efficiency:	N/A
Efficacy:	117.3 lumens/watt
Spacing Criteria (0/90/45):	1.22 / 1.27 / 1.38
Luminous Opening:	Rectangular w/ Sides (W: 0.75' x L: 2' x H: 0.17')
CIE Type:	Direct

Input Watts (W):	23.1
Input Voltage (V):	120
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:	25 FT

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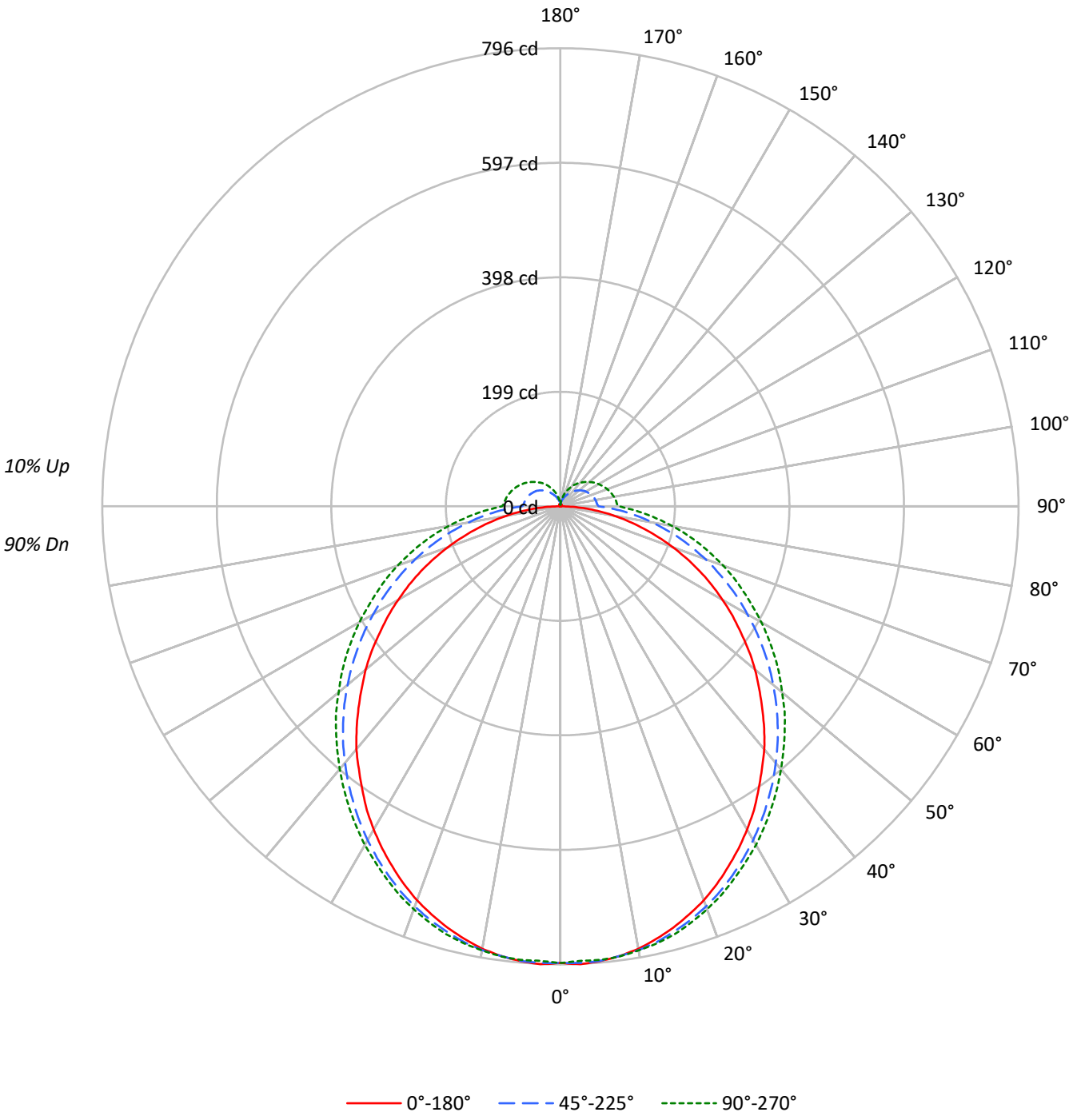
Luminous Intensity Polar Plot



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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	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	90
1	105	100	95	91	101	97	92	88	91	87	84	85	82	79	80	78	75	73
2	95	86	79	73	91	84	77	71	78	73	68	74	69	65	69	66	62	59
3	86	75	67	60	83	73	65	59	69	62	57	65	59	54	61	56	52	50
4	79	67	57	51	76	65	56	50	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	43	54	47	41	51	45	40	48	43	39	36
6	67	53	44	38	64	52	43	37	49	42	36	46	40	35	44	38	34	32
7	62	48	39	33	60	47	39	33	44	37	32	42	36	31	40	34	30	28
8	58	44	35	29	55	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5694	5694	5694
5°	5674	5605	5591
10°	5606	5496	5495
15°	5508	5371	5395
20°	5400	5238	5265
25°	5265	5089	5124
30°	5128	4934	4990
35°	4968	4774	4848
40°	4826	4616	4709
45°	4646	4455	4577
50°	4485	4283	4438
55°	4280	4107	4316
60°	4081	3918	4178
65°	3850	3731	4037
70°	3558	3528	3914
75°	3176	3303	3777
80°	2691	3014	3603
85°	1910	2688	3423

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.3	2.8
10°-20°	215.4	8.0
20°-30°	324.7	12.0
30°-40°	390.2	14.4
40°-50°	408.2	15.1
50°-60°	379.9	14.0
60°-70°	313.3	11.6
70°-80°	220.2	8.1
80°-90°	116.2	4.3
90°-100°	62.9	2.3
100°-110°	57.1	2.1
110°-120°	48.9	1.8
120°-130°	38.7	1.4
130°-140°	27.6	1.0
140°-150°	17.3	0.6
150°-160°	9.0	0.3
160°-170°	3.3	0.1
170°-180°	0.6	0.0
0°-30°	615.4	22.7
0°-40°	1005.6	37.1
0°-60°	1793.7	66.2
0°-90°	2443.4	90.2
90°-120°	169.0	6.2
90°-150°	252.6	9.3
90°-180°	266.0	9.8
0°-180°	2708.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	794	794	794	794	794	
5°	794	789	793	793	791	75
15°	758	756	765	769	769	214
25°	691	695	708	714	714	318
35°	600	609	627	637	640	376
45°	496	512	534	547	551	383
55°	383	403	430	447	454	343
65°	267	291	322	343	351	264
75°	150	179	215	240	249	159
85°	45	76	113	137	147	47
90°	2	31	66	92	101	3
95°	0	29	63	88	97	0
105°	1	27	60	82	91	1
115°	2	26	54	75	82	2
125°	2	22	48	66	72	2
135°	3	17	38	55	60	2
145°	3	14	28	42	47	2
155°	4	11	20	28	32	2
165°	4	8	11	15	18	1
175°	4	4	5	5	6	0
180°	4	4	4	4	4	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	793.5	793.5	793.5	793.5	793.5	793.5	793.5	793.5	793.5	793.5	793.5
2.5°	796.5	795.8	794.3	792.8	792.0	792.0	791.3	791.3	791.3	793.5	794.3
5°	793.5	792.8	791.3	790.5	789.7	789.0	789.0	789.0	789.7	792.0	792.8
7.5°	788.2	787.5	786.0	785.2	784.5	784.5	784.5	784.5	785.2	787.5	788.2
10°	780.7	779.9	778.4	777.7	777.7	777.7	777.7	777.7	779.2	781.4	783.0
12.5°	770.1	769.4	768.6	768.6	767.9	767.9	768.6	768.6	770.1	773.1	775.4
15°	758.0	757.3	756.5	756.5	756.5	756.5	757.3	758.0	760.3	763.3	764.8
17.5°	743.7	743.7	742.9	743.7	743.7	743.7	744.4	746.0	747.5	751.2	753.5
20°	728.6	727.8	727.1	728.6	728.6	728.6	729.3	731.6	733.9	737.7	739.9
22.5°	710.5	710.5	710.5	711.2	712.0	712.7	713.5	715.8	718.8	721.8	724.8
25°	690.8	690.8	690.8	692.4	693.9	694.6	695.4	697.6	701.4	704.4	707.5
27.5°	670.5	670.5	670.5	671.2	673.5	674.2	675.7	678.8	682.5	685.6	689.3
30°	648.6	648.6	649.3	650.8	653.1	653.8	655.4	658.4	662.9	665.9	669.7
32.5°	625.9	625.2	625.9	628.2	630.4	632.7	633.5	637.2	641.8	645.5	649.3
35°	600.2	601.0	602.5	604.8	607.0	609.3	610.8	614.6	619.9	623.6	627.4
37.5°	575.3	576.1	577.6	580.6	583.6	585.9	588.2	591.2	597.2	601.0	605.5
40°	551.2	549.7	552.7	555.7	559.5	561.7	564.0	567.8	573.8	577.6	582.1
42.5°	524.0	524.0	526.2	530.8	534.6	536.8	539.1	543.6	549.7	554.2	558.7
45°	496.0	496.8	499.8	504.4	508.9	511.9	513.4	518.7	524.7	529.3	533.8
47.5°	468.1	469.6	472.6	477.9	482.5	485.5	487.0	493.0	499.1	504.4	508.9
50°	441.7	441.7	445.5	450.0	455.3	458.3	460.6	466.6	472.6	477.9	482.5
52.5°	413.0	413.0	416.8	422.8	427.3	431.1	433.4	440.2	446.2	451.5	456.8
55°	382.8	384.3	388.1	394.9	400.2	403.2	406.2	413.0	419.0	425.1	429.6
57.5°	354.9	355.6	360.1	366.2	372.2	375.2	379.0	385.1	391.9	398.6	403.2
60°	325.4	326.9	330.7	338.2	344.3	347.3	350.3	357.9	364.7	370.7	375.2
62.5°	296.7	297.5	302.8	309.6	315.6	319.4	323.1	329.9	336.7	342.8	348.8
65°	267.3	268.8	273.3	280.9	286.9	290.7	293.7	302.8	308.8	315.6	321.6
67.5°	237.8	239.3	244.6	252.2	259.0	262.7	265.8	274.1	281.6	288.4	294.5
70°	208.4	209.9	215.9	223.5	230.3	234.1	238.6	246.1	254.4	261.2	268.0
72.5°	178.2	180.4	185.7	194.0	203.1	206.9	210.6	219.7	227.3	234.8	240.9
75°	150.2	152.5	158.6	166.1	173.7	178.9	182.0	191.0	200.8	208.4	215.2
77.5°	122.3	124.6	130.6	138.9	147.2	151.8	156.3	164.6	172.9	180.4	188.0
80°	95.9	98.2	104.9	112.5	120.8	126.1	130.6	139.7	148.0	155.5	162.3
82.5°	70.2	72.5	79.3	87.6	96.6	101.2	105.7	114.0	123.1	130.6	138.2
85°	45.3	49.1	55.1	62.7	71.7	76.3	80.8	89.8	98.2	105.7	113.3
87.5°	21.9	24.9	31.7	40.0	48.3	53.6	57.4	65.7	74.7	81.5	89.1
90°	1.5	4.5	10.6	18.1	26.4	31.0	35.5	43.8	52.1	59.6	66.4
92.5°	0.0	3.0	9.1	16.6	24.9	29.4	33.2	41.5	49.8	57.4	64.2
95°	0.0	3.0	9.1	16.6	24.9	28.7	33.2	41.5	49.1	56.6	63.4
97.5°	0.8	3.0	9.1	16.6	24.2	28.7	32.5	40.8	48.3	55.9	62.7
100°	0.8	3.0	9.1	15.9	24.2	27.9	32.5	40.0	47.6	55.1	61.9
102.5°	0.8	3.0	9.1	15.9	24.2	27.9	31.7	39.3	46.8	54.4	61.2
105°	0.8	3.8	9.1	15.9	23.4	27.2	31.0	39.3	46.1	52.9	59.6
107.5°	0.8	3.8	9.1	15.9	23.4	27.2	31.0	38.5	45.3	52.1	58.1
110°	1.5	3.8	9.1	15.9	22.7	26.4	30.2	37.8	44.5	51.3	57.4

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.5	3.8	9.1	15.1	22.7	25.7	29.4	37.0	43.8	49.8	55.9
115°	1.5	3.8	9.1	15.1	21.9	25.7	28.7	36.2	42.3	49.1	54.4
117.5°	1.5	4.5	9.1	14.3	21.1	24.9	27.9	34.7	41.5	47.6	52.9
120°	2.3	4.5	8.3	14.3	20.4	24.2	27.2	34.0	40.0	46.1	51.3
122.5°	2.3	4.5	8.3	13.6	19.6	22.7	26.4	32.5	38.5	44.5	49.8
125°	2.3	4.5	8.3	12.8	18.9	21.9	24.9	31.0	37.0	42.3	47.6
127.5°	2.3	4.5	8.3	12.8	18.1	20.4	23.4	29.4	34.7	40.0	45.3
130°	2.3	4.5	7.6	12.1	16.6	19.6	21.9	27.9	32.5	37.8	43.0
132.5°	2.3	4.5	7.6	11.3	15.9	18.9	21.1	26.4	31.0	35.5	40.8
135°	3.0	4.5	7.6	11.3	15.1	17.4	19.6	24.2	28.7	33.2	38.5
137.5°	3.0	4.5	6.8	10.6	14.3	16.6	18.9	22.7	27.2	31.7	35.5
140°	3.0	4.5	6.8	9.8	13.6	15.9	17.4	21.1	25.7	29.4	33.2
142.5°	3.0	4.5	6.8	9.8	12.8	14.3	16.6	19.6	23.4	27.2	31.0
145°	3.0	4.5	6.8	9.1	12.1	13.6	15.1	18.9	21.9	24.9	27.9
147.5°	3.8	4.5	6.8	9.1	11.3	12.8	14.3	17.4	20.4	22.7	25.7
150°	3.8	4.5	6.0	8.3	10.6	12.1	13.6	15.9	18.9	21.1	23.4
152.5°	3.8	4.5	6.0	8.3	10.6	11.3	12.1	15.1	17.4	19.6	21.1
155°	3.8	4.5	6.0	7.6	9.8	10.6	11.3	13.6	15.9	17.4	19.6
157.5°	3.8	4.5	6.0	7.6	9.1	9.8	10.6	12.1	14.3	15.9	17.4
160°	3.8	4.5	6.0	6.8	8.3	9.1	9.8	11.3	12.8	14.3	15.1
162.5°	4.5	4.5	5.3	6.8	7.6	8.3	9.1	9.8	11.3	12.1	13.6
165°	4.5	4.5	5.3	6.0	6.8	7.6	7.6	9.1	9.8	10.6	11.3
167.5°	4.5	4.5	5.3	6.0	6.0	6.8	6.8	7.6	8.3	9.1	9.8
170°	4.5	4.5	4.5	5.3	6.0	6.0	6.0	6.8	7.6	7.6	8.3
172.5°	4.5	4.5	4.5	4.5	5.3	5.3	5.3	6.0	6.0	6.8	6.8
175°	4.5	4.5	4.5	4.5	4.5	4.5	5.3	5.3	5.3	5.3	5.3
177.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
180°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8

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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	793.5	793.5	793.5	793.5	793.5	793.5	793.5	793.5	793.5	793.5
2.5°	*795.0*	*796.5*	*795.8*	*794.3*	*794.3*	*794.3*	*793.5*	*792.0*	*791.3*	*790.5*
5°	793.5	795.0	793.5	792.8	792.8	792.8	792.8	792.0	791.3	791.3
7.5°	789.7	791.3	790.5	789.7	789.7	789.7	789.7	789.0	789.0	789.0
10°	784.5	786.7	786.0	785.2	784.5	785.2	784.5	784.5	783.7	783.7
12.5°	776.2	778.4	778.4	777.7	777.7	777.7	777.7	777.7	776.9	777.7
15°	767.1	769.4	769.4	769.4	769.4	769.4	769.4	769.4	768.6	769.4
17.5°	755.8	758.0	758.8	758.0	758.8	758.8	758.8	758.0	758.0	758.0
20°	742.2	744.4	745.2	744.4	744.4	744.4	745.2	745.2	745.2	745.2
22.5°	727.1	729.3	729.3	729.3	730.1	730.1	730.1	730.9	730.9	730.9
25°	709.7	712.0	712.0	712.7	713.5	713.5	714.2	714.2	714.2	714.2
27.5°	693.1	694.6	694.6	695.4	696.1	696.1	696.1	696.1	697.6	696.9
30°	673.5	675.0	675.7	677.2	677.2	678.0	678.0	678.8	679.5	679.5
32.5°	653.1	654.6	655.4	656.9	657.6	658.4	658.4	659.9	660.6	659.9
35°	631.2	632.7	635.0	635.7	637.2	637.2	638.7	638.7	640.3	639.5
37.5°	609.3	610.8	612.3	613.8	615.3	616.1	616.8	618.4	619.9	618.4
40°	585.9	588.2	590.4	591.9	592.7	594.2	594.2	596.5	598.0	596.5
42.5°	562.5	564.8	567.0	570.0	570.0	570.8	572.3	574.6	574.6	573.8
45°	538.3	539.8	543.6	545.9	546.6	547.4	548.9	549.7	551.2	551.2
47.5°	512.7	515.7	519.5	521.7	522.5	523.2	524.7	526.2	528.5	528.5
50°	487.0	490.8	492.3	496.0	497.6	498.3	500.6	502.1	503.6	502.8
52.5°	460.6	463.6	468.1	471.1	472.6	473.4	475.7	477.9	478.7	479.4
55°	434.1	437.9	442.4	445.5	447.0	448.5	450.0	451.5	453.8	454.5
57.5°	407.7	411.5	416.8	419.8	421.3	422.1	425.1	427.3	428.1	428.8
60°	380.5	385.1	390.3	393.4	394.9	397.1	397.9	401.7	402.4	403.2
62.5°	354.1	358.6	363.9	367.7	369.2	370.7	373.7	376.0	377.5	376.8
65°	327.7	332.2	337.5	341.3	342.8	345.0	347.3	349.6	351.1	351.1
67.5°	300.5	305.8	311.8	315.6	317.1	319.4	321.6	323.1	325.4	326.9
70°	274.1	280.1	285.4	289.2	290.7	292.9	295.2	299.0	299.0	300.5
72.5°	247.6	253.7	259.0	264.3	265.8	267.3	270.3	272.6	273.3	274.8
75°	222.0	228.0	233.3	237.1	240.1	241.6	244.6	246.1	247.6	249.2
77.5°	194.8	202.3	207.6	212.2	214.4	215.9	219.0	221.2	222.7	223.5
80°	169.1	175.2	180.4	185.0	187.2	189.5	192.5	194.0	196.3	197.1
82.5°	144.2	150.2	155.5	159.3	162.3	163.8	166.9	169.9	169.9	171.4
85°	119.3	125.3	130.6	135.1	137.4	139.7	141.9	145.0	145.7	147.2
87.5°	95.1	101.9	106.5	111.7	113.3	115.5	119.3	121.6	123.1	123.1
90°	73.2	79.3	84.6	89.8	92.1	93.6	97.4	99.7	101.2	101.2
92.5°	71.0	77.0	82.3	87.6	89.1	91.4	94.4	96.6	98.2	98.2
95°	70.2	76.3	81.5	86.1	88.3	89.8	93.6	95.1	96.6	97.4
97.5°	69.5	75.5	80.8	85.3	86.8	89.1	92.1	94.4	95.9	95.9
100°	68.0	74.0	79.3	83.8	86.1	87.6	90.6	92.9	93.6	94.4
102.5°	67.2	72.5	77.8	82.3	84.6	86.1	89.1	91.4	92.1	92.9
105°	65.7	71.7	76.3	80.8	82.3	84.6	86.8	89.1	90.6	90.6
107.5°	64.2	70.2	74.7	79.3	80.8	82.3	85.3	87.6	88.3	89.1
110°	62.7	68.7	73.2	77.0	79.3	80.8	83.1	85.3	86.1	86.8

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

Scaled Data Report

TEST NUMBER: P981629
CATALOG NUMBER: 2WNLED-LD4-28SL-F-UNV-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	61.2	66.4	71.0	75.5	77.0	78.5	80.8	83.1	83.8	84.6
115°	59.6	64.9	69.5	73.2	74.7	76.3	78.5	80.8	81.5	82.3
117.5°	58.1	63.4	67.2	71.0	72.5	74.0	76.3	78.5	79.3	79.3
120°	56.6	61.2	65.7	68.7	70.2	71.7	74.0	75.5	77.0	77.0
122.5°	54.4	58.9	63.4	66.4	68.0	69.5	71.7	73.2	74.0	74.7
125°	52.9	57.4	61.2	64.2	65.7	67.2	68.7	70.2	71.0	71.7
127.5°	50.6	54.4	58.9	61.9	63.4	64.9	66.4	68.0	68.7	68.7
130°	47.6	52.1	55.9	59.6	61.2	61.9	64.2	64.9	65.7	65.7
132.5°	45.3	49.1	52.9	56.6	58.1	59.6	61.2	61.9	62.7	62.7
135°	42.3	46.1	49.8	53.6	55.1	56.6	58.1	58.9	59.6	59.6
137.5°	40.0	43.8	46.8	50.6	52.1	53.6	55.1	55.9	56.6	56.6
140°	37.0	40.0	43.8	47.6	49.1	49.8	52.1	52.9	53.6	53.6
142.5°	34.0	37.8	40.8	43.8	45.3	46.8	49.1	49.8	50.6	50.6
145°	31.7	34.7	37.0	40.0	41.5	43.0	45.3	46.8	46.8	46.8
147.5°	28.7	31.7	34.0	37.0	38.5	39.3	42.3	43.0	43.8	43.8
150°	26.4	28.7	31.0	33.2	34.7	36.2	38.5	40.0	40.0	40.0
152.5°	24.2	25.7	27.9	30.2	31.0	32.5	34.7	36.2	36.2	36.2
155°	21.1	23.4	24.9	26.4	27.9	28.7	31.0	32.5	32.5	32.5
157.5°	18.9	20.4	21.9	23.4	24.2	24.9	27.2	28.7	29.4	29.4
160°	16.6	18.1	18.9	20.4	21.1	21.9	22.7	24.9	25.7	25.7
162.5°	14.3	15.1	16.6	17.4	18.1	18.1	19.6	20.4	21.9	21.9
165°	12.1	12.8	13.6	14.3	15.1	15.1	15.9	17.4	18.1	18.1
167.5°	10.6	10.6	11.3	12.1	12.1	12.1	12.8	13.6	15.1	15.1
170°	8.3	9.1	9.1	9.1	9.8	9.8	9.8	10.6	11.3	12.1
172.5°	6.8	6.8	7.6	7.6	7.6	7.6	7.6	7.6	8.3	9.1
175°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	6.0
177.5°	4.5	4.5	4.5	3.8	3.8	3.8	3.8	3.8	3.8	3.0
180°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8

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: SP3-2508-516-10

Test Date: 09/05/2025

Luminaire Tested: 4WNLED-LD4-50SL-F-UNVL935-CD1-U

Data in this report applies to families of products including 4WNLED-LD4-50SL-F-UNVL935-CD1-U

Report Generated By FNC07603 / LDUCLS01DT01661
Version: v7.05

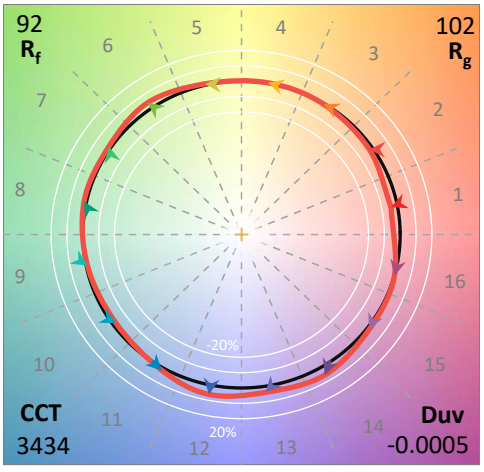
Test Information

Test Method:	LM-79-2019
Report Number:	SP3-2508-516-10
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP3 - 3M SPHERE
Measurement Geometry:	4π
Issue Date:	09/05/2025
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Metalux
Catalog Number:	**4WNLED-LD4-50SL-F-UNVL935-CD1-U**
Description:	4FT WNLED 5000LM 935

Spectral Parameters

CCT (K):	3434	CRI (Ra):	95.1		
CIE u':	0.2376	R1:	97.5	R9:	72.8
CIE v':	0.5120	R2:	96.4	R10:	89.6
Duv:	-0.0005	R3:	93.7	R11:	94.9
CIE x:	0.4085	R4:	96.0	R12:	80.4
CIE y:	0.3912	R5:	96.5	R13:	97.1
CIE z:	0.2002	R6:	95.5	R14:	95.3
Peak Wavelength (nm):	630	R7:	95.1	R15:	94.5
Dominant Wavelength (nm):	581	R8:	90.0		
Purity:	40.03883				

Rf:	92.1
Rg:	101.8



Test Conditions

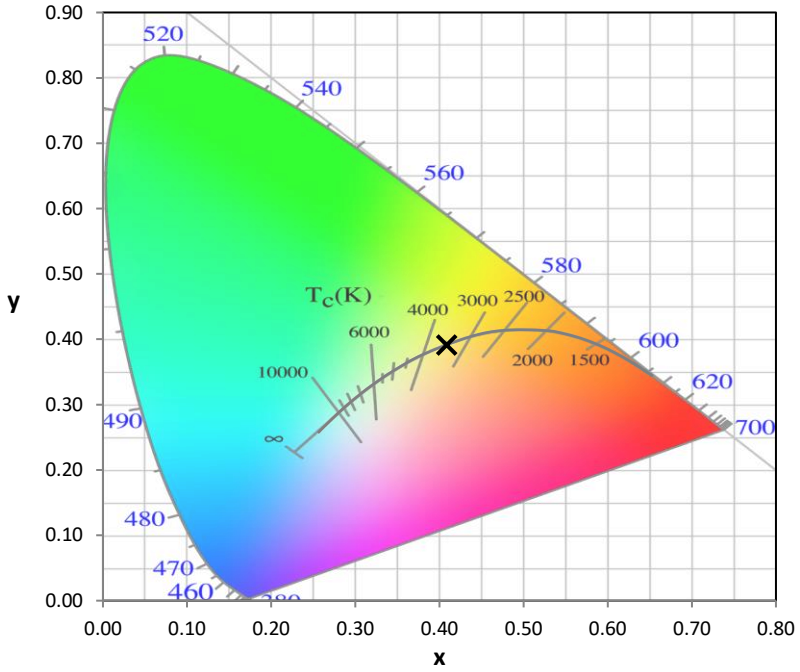
Stabilization Time:	24M
Operation Time:	1H 24M
Sphere Temperature (°C):	25.0

REPORT NUMBER: SP3-2508-516-10

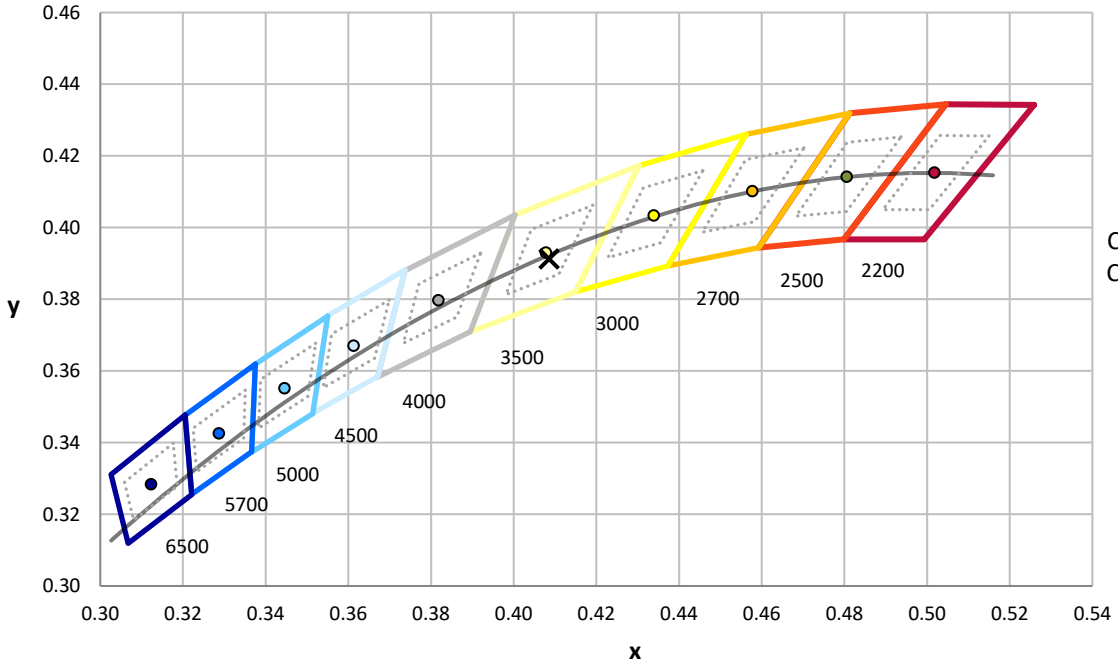
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	3M SPHERE IN02505	7/1/2025	1/1/2026
Power Meter	XITRON INXT2011006	1/20/2025	1/20/2026
AC Power Source	CHROMA 61604 IN6064A	10/22/2024	10/22/2025
DC Power Source	EYSIGHT N5770A IN0534	10/22/2024	10/22/2025
Sphere Thermometer	TANDD IN4036E	10/22/2024	10/22/2025

REPORT NUMBER: SP3-2508-516-10

CIE 1931 Chromaticity Diagram



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

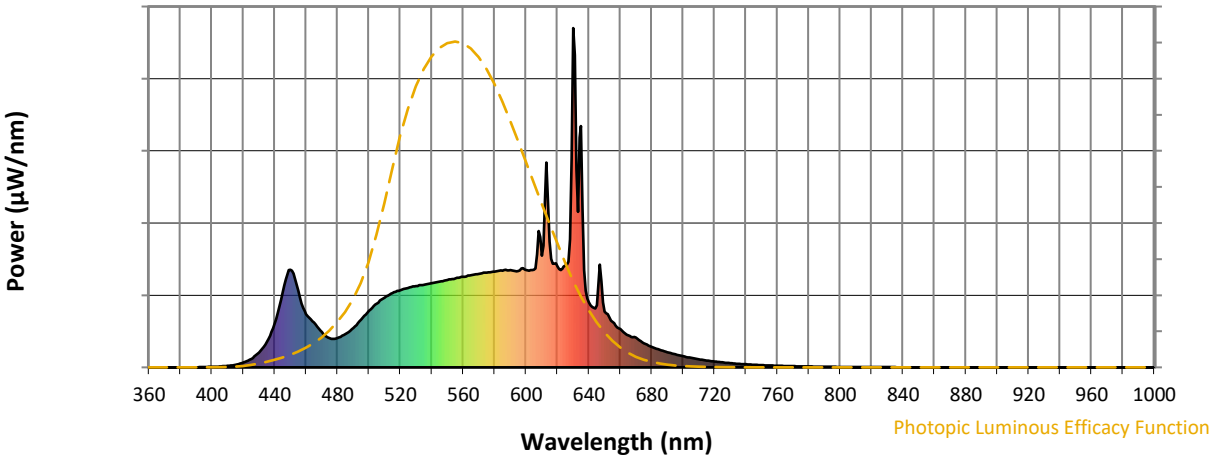


CCT = 3434K
CIE x = 0.4085
CIE y = 0.3912
Duv = -0.0005

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP3-2508-516-10

Photopic Flux vs. Wavelength

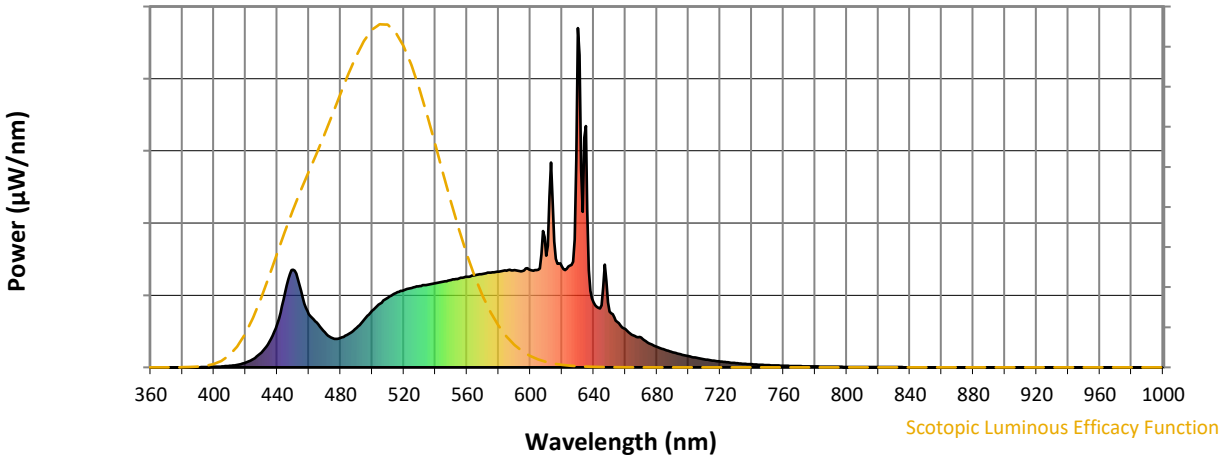


Photopic Lumens: NR

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	116	NR	620	297	NR	750	7	NR	880	0	NR
365	0	NR	495	140	NR	625	300	NR	755	6	NR	885	0	NR
370	0	NR	500	167	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	188	NR	635	711	NR	765	4	NR	895	0	NR
380	0	NR	510	205	NR	640	191	NR	770	3	NR	900	0	NR
385	0	NR	515	219	NR	645	183	NR	775	3	NR	905	0	NR
390	0	NR	520	227	NR	650	164	NR	780	3	NR	910	0	NR
395	1	NR	525	234	NR	655	134	NR	785	2	NR	915	0	NR
400	2	NR	530	239	NR	660	113	NR	790	2	NR	920	0	NR
405	3	NR	535	243	NR	665	94	NR	795	2	NR	925	0	NR
410	4	NR	540	248	NR	670	88	NR	800	1	NR	930	0	NR
415	8	NR	545	253	NR	675	71	NR	805	1	NR	935	0	NR
420	14	NR	550	258	NR	680	61	NR	810	1	NR	940	0	NR
425	25	NR	555	262	NR	685	52	NR	815	1	NR	945	0	NR
430	44	NR	560	267	NR	690	45	NR	820	1	NR	950	0	NR
435	75	NR	565	272	NR	695	38	NR	825	1	NR	955	0	NR
440	129	NR	570	276	NR	700	33	NR	830	1	NR	960	0	NR
445	221	NR	575	279	NR	705	28	NR	835	1	NR	965	0	NR
450	288	NR	580	282	NR	710	24	NR	840	0	NR	970	0	NR
455	225	NR	585	285	NR	715	20	NR	845	0	NR	975	0	NR
460	157	NR	590	286	NR	720	17	NR	850	0	NR	980	0	NR
465	132	NR	595	284	NR	725	15	NR	855	0	NR	985	0	NR
470	104	NR	600	286	NR	730	12	NR	860	0	NR	990	0	NR
475	85	NR	605	287	NR	735	11	NR	865	0	NR	995	0	NR
480	86	NR	610	329	NR	740	9	NR	870	0	NR	1000	0	NR
485	98	NR	615	371	NR	745	8	NR	875	0	NR			

REPORT NUMBER: SP3-2508-516-10

Scotopic Flux vs. Wavelength

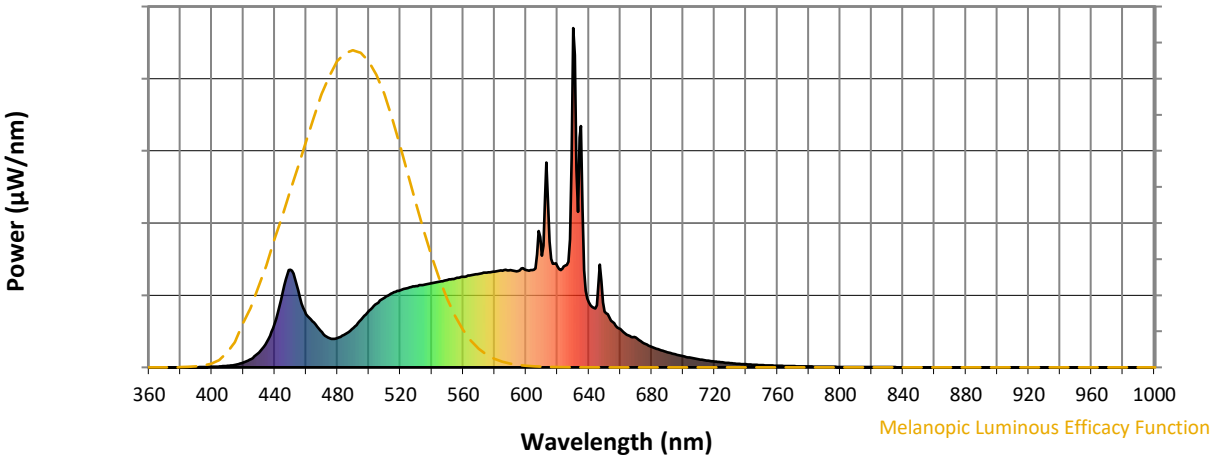


Scotopic Lumens: NR **S/P: 1.59**

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	116	NR	620	297	NR	750	7	NR	880	0	NR
365	0	NR	495	140	NR	625	300	NR	755	6	NR	885	0	NR
370	0	NR	500	167	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	188	NR	635	711	NR	765	4	NR	895	0	NR
380	0	NR	510	205	NR	640	191	NR	770	3	NR	900	0	NR
385	0	NR	515	219	NR	645	183	NR	775	3	NR	905	0	NR
390	0	NR	520	227	NR	650	164	NR	780	3	NR	910	0	NR
395	1	NR	525	234	NR	655	134	NR	785	2	NR	915	0	NR
400	2	NR	530	239	NR	660	113	NR	790	2	NR	920	0	NR
405	3	NR	535	243	NR	665	94	NR	795	2	NR	925	0	NR
410	4	NR	540	248	NR	670	88	NR	800	1	NR	930	0	NR
415	8	NR	545	253	NR	675	71	NR	805	1	NR	935	0	NR
420	14	NR	550	258	NR	680	61	NR	810	1	NR	940	0	NR
425	25	NR	555	262	NR	685	52	NR	815	1	NR	945	0	NR
430	44	NR	560	267	NR	690	45	NR	820	1	NR	950	0	NR
435	75	NR	565	272	NR	695	38	NR	825	1	NR	955	0	NR
440	129	NR	570	276	NR	700	33	NR	830	1	NR	960	0	NR
445	221	NR	575	279	NR	705	28	NR	835	1	NR	965	0	NR
450	288	NR	580	282	NR	710	24	NR	840	0	NR	970	0	NR
455	225	NR	585	285	NR	715	20	NR	845	0	NR	975	0	NR
460	157	NR	590	286	NR	720	17	NR	850	0	NR	980	0	NR
465	132	NR	595	284	NR	725	15	NR	855	0	NR	985	0	NR
470	104	NR	600	286	NR	730	12	NR	860	0	NR	990	0	NR
475	85	NR	605	287	NR	735	11	NR	865	0	NR	995	0	NR
480	86	NR	610	329	NR	740	9	NR	870	0	NR	1000	0	NR
485	98	NR	615	371	NR	745	8	NR	875	0	NR			

REPORT NUMBER: SP3-2508-516-10

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 3.19**

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	116	NR	620	297	NR	750	7	NR	880	0	NR
365	0	NR	495	140	NR	625	300	NR	755	6	NR	885	0	NR
370	0	NR	500	167	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	188	NR	635	711	NR	765	4	NR	895	0	NR
380	0	NR	510	205	NR	640	191	NR	770	3	NR	900	0	NR
385	0	NR	515	219	NR	645	183	NR	775	3	NR	905	0	NR
390	0	NR	520	227	NR	650	164	NR	780	3	NR	910	0	NR
395	1	NR	525	234	NR	655	134	NR	785	2	NR	915	0	NR
400	2	NR	530	239	NR	660	113	NR	790	2	NR	920	0	NR
405	3	NR	535	243	NR	665	94	NR	795	2	NR	925	0	NR
410	4	NR	540	248	NR	670	88	NR	800	1	NR	930	0	NR
415	8	NR	545	253	NR	675	71	NR	805	1	NR	935	0	NR
420	14	NR	550	258	NR	680	61	NR	810	1	NR	940	0	NR
425	25	NR	555	262	NR	685	52	NR	815	1	NR	945	0	NR
430	44	NR	560	267	NR	690	45	NR	820	1	NR	950	0	NR
435	75	NR	565	272	NR	695	38	NR	825	1	NR	955	0	NR
440	129	NR	570	276	NR	700	33	NR	830	1	NR	960	0	NR
445	221	NR	575	279	NR	705	28	NR	835	1	NR	965	0	NR
450	288	NR	580	282	NR	710	24	NR	840	0	NR	970	0	NR
455	225	NR	585	285	NR	715	20	NR	845	0	NR	975	0	NR
460	157	NR	590	286	NR	720	17	NR	850	0	NR	980	0	NR
465	132	NR	595	284	NR	725	15	NR	855	0	NR	985	0	NR
470	104	NR	600	286	NR	730	12	NR	860	0	NR	990	0	NR
475	85	NR	605	287	NR	735	11	NR	865	0	NR	995	0	NR
480	86	NR	610	329	NR	740	9	NR	870	0	NR	1000	0	NR
485	98	NR	615	371	NR	745	8	NR	875	0	NR			

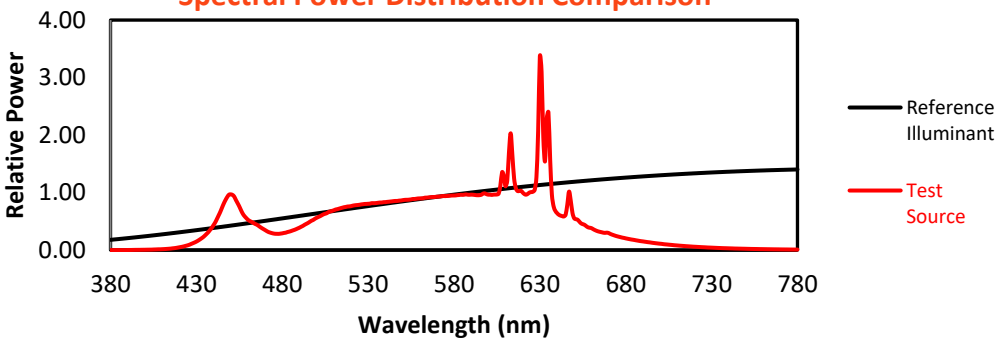
REPORT NUMBER: SP3-2508-516-10

TM-30-18

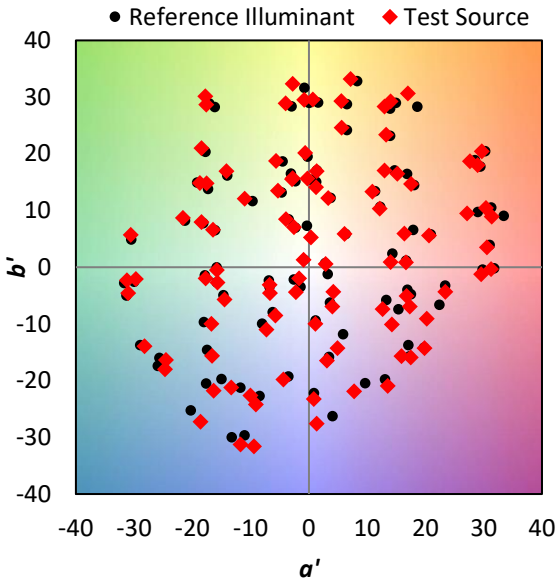
Summary

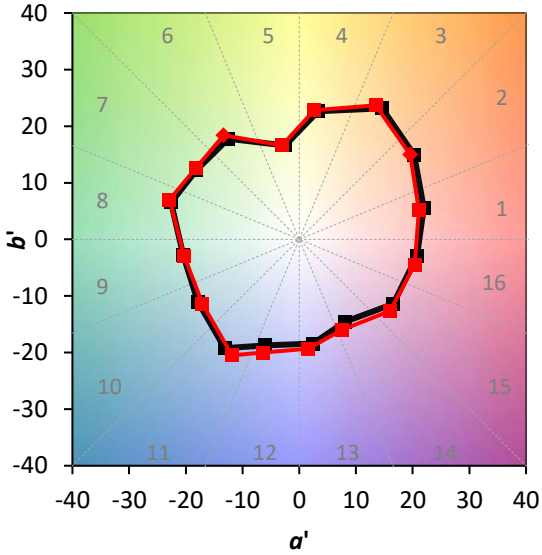
R_f = 92.1
R_g = 101.8
CIE R_a = 95.1
R_9 = 72.8

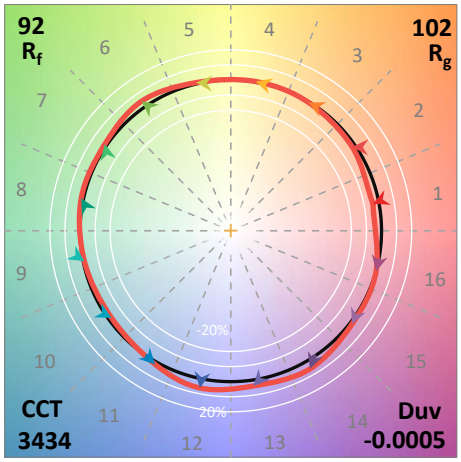
Spectral Power Distribution Comparison

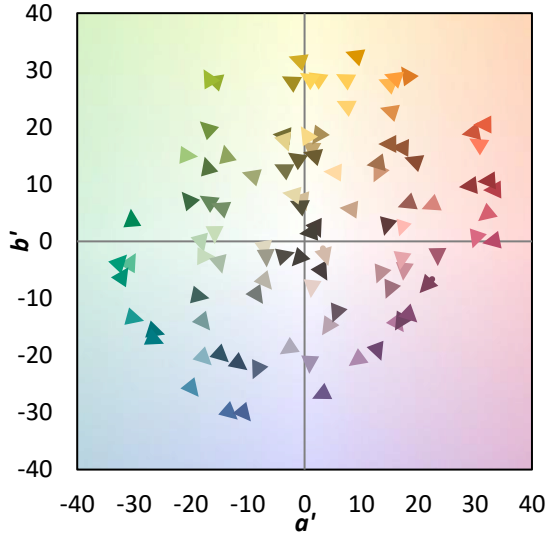


Color Vector Graphics







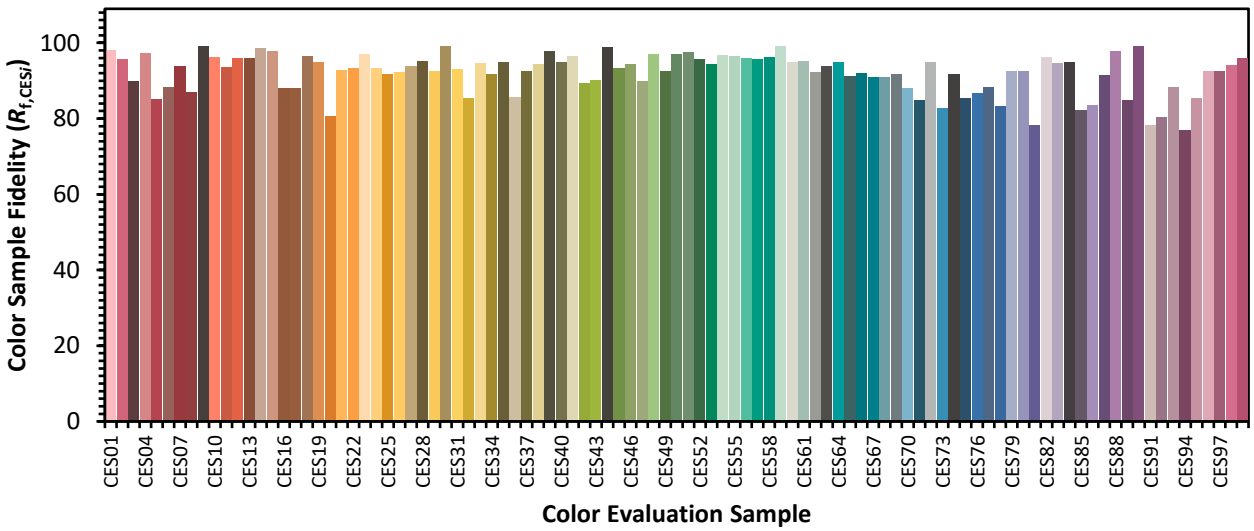


REPORT NUMBER: SP3-2508-516-10

TM-30-18

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

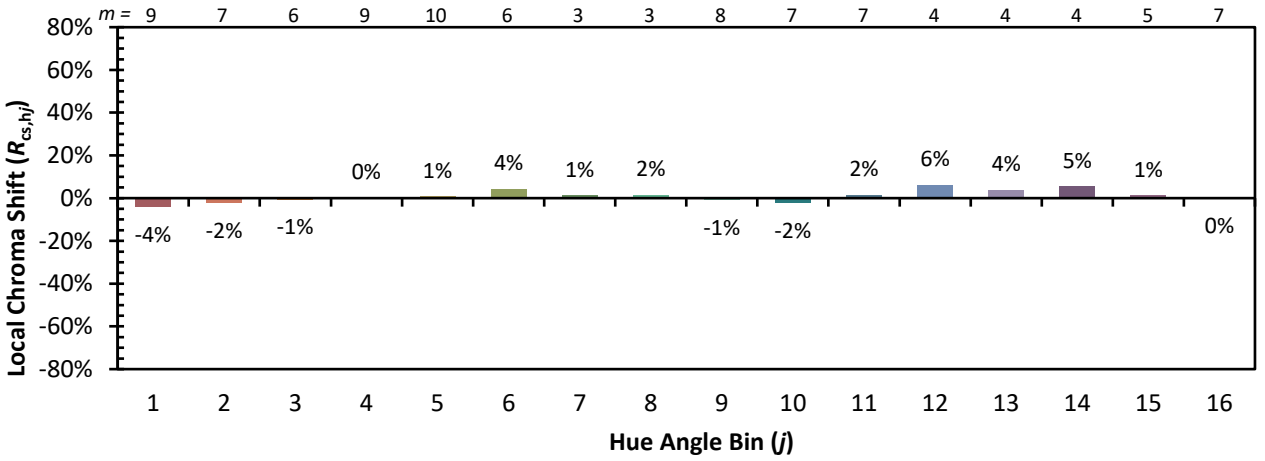
CES01 = 86	CES26 = 92	CES51 = 98	CES76 = 87
CES02 = 62	CES27 = 94	CES52 = 96	CES77 = 88
CES03 = 31	CES28 = 95	CES53 = 94	CES78 = 83
CES04 = 70	CES29 = 93	CES54 = 97	CES79 = 93
CES05 = 50	CES30 = 99	CES55 = 97	CES80 = 92
CES06 = 51	CES31 = 93	CES56 = 96	CES81 = 78
CES07 = 43	CES32 = 85	CES57 = 96	CES82 = 96
CES08 = 42	CES33 = 95	CES58 = 96	CES83 = 95
CES09 = 29	CES34 = 92	CES59 = 99	CES84 = 95
CES10 = 75	CES35 = 95	CES60 = 95	CES85 = 82
CES11 = 58	CES36 = 86	CES61 = 95	CES86 = 84
CES12 = 64	CES37 = 92	CES62 = 92	CES87 = 92
CES13 = 44	CES38 = 95	CES63 = 94	CES88 = 98
CES14 = 74	CES39 = 98	CES64 = 95	CES89 = 85
CES15 = 72	CES40 = 95	CES65 = 91	CES90 = 99
CES16 = 48	CES41 = 97	CES66 = 92	CES91 = 78
CES17 = 49	CES42 = 89	CES67 = 91	CES92 = 80
CES18 = 56	CES43 = 90	CES68 = 91	CES93 = 88
CES19 = 71	CES44 = 99	CES69 = 92	CES94 = 77
CES20 = 67	CES45 = 93	CES70 = 88	CES95 = 85
CES21 = 86	CES46 = 94	CES71 = 85	CES96 = 93
CES22 = 78	CES47 = 90	CES72 = 95	CES97 = 92
CES23 = 91	CES48 = 97	CES73 = 83	CES98 = 94
CES24 = 90	CES49 = 93	CES74 = 92	CES99 = 96
CES25 = 71	CES50 = 97	CES75 = 85	

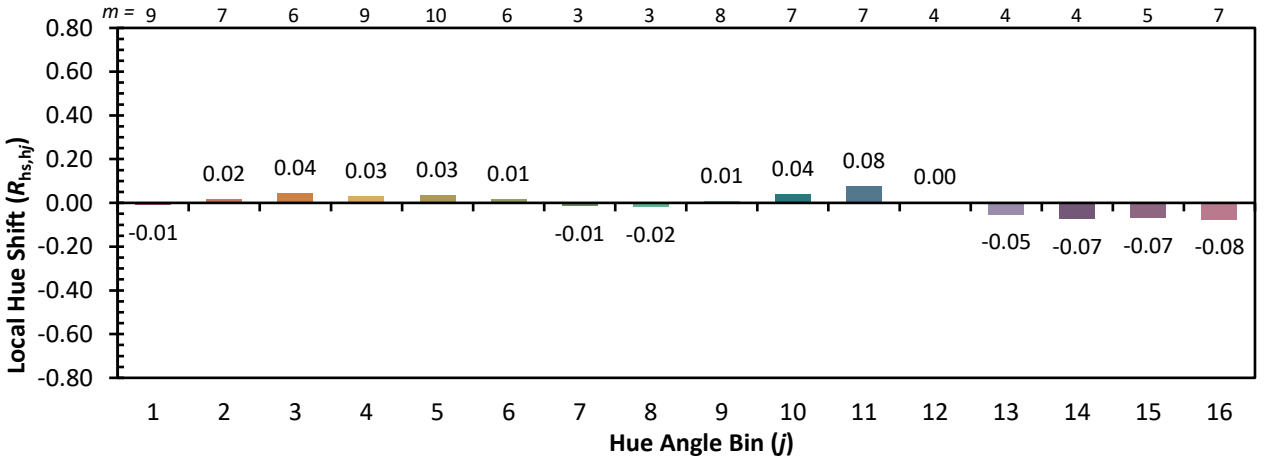


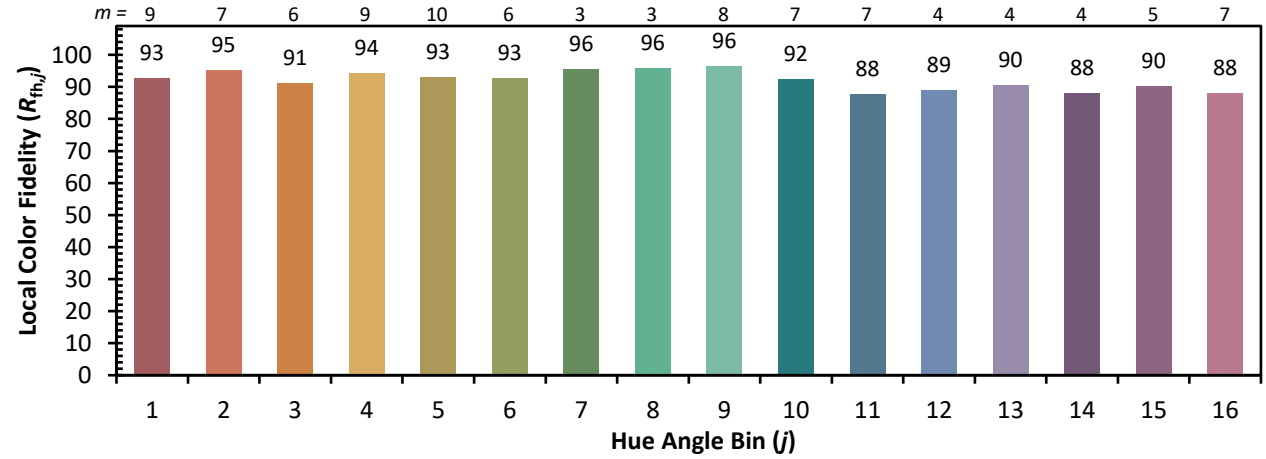
REPORT NUMBER: SP3-2508-516-10

TM-30-18

Color Rendition by Hue-Angle Bin







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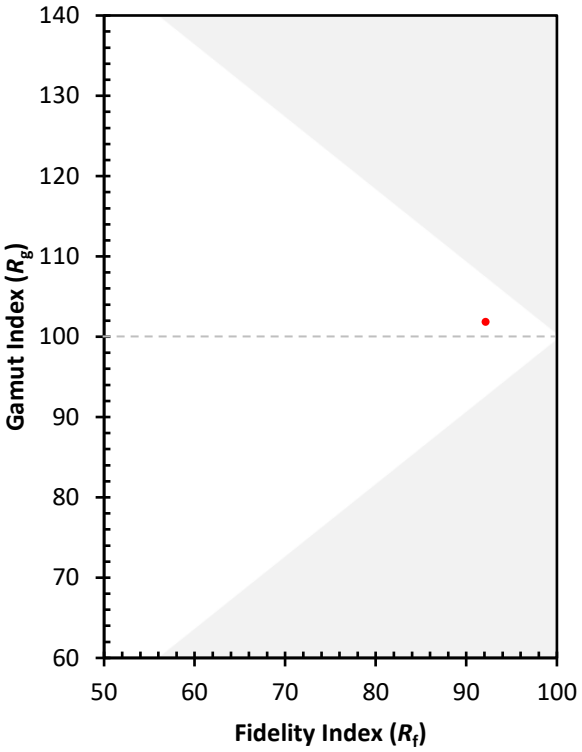
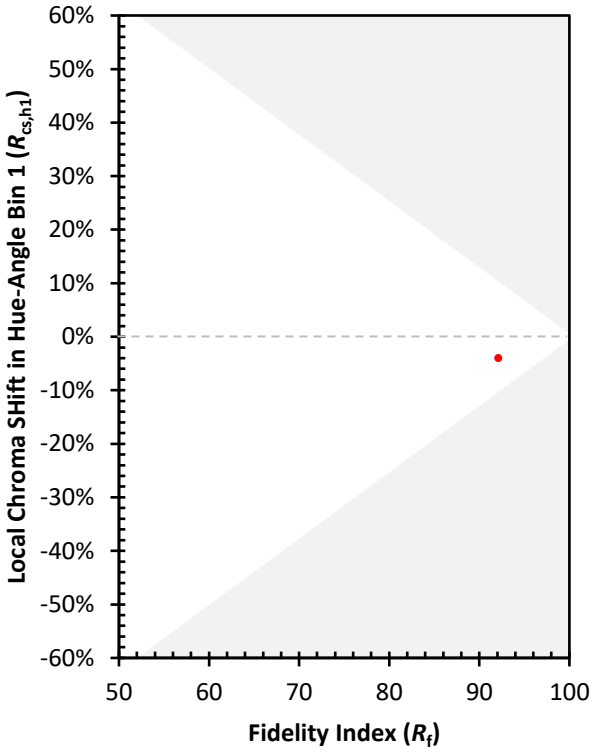
Measure Comparisons





(END OF REPORT)