

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: P1432559

Luminaire Tested: EHBR1-12-UNV-TASM-L835-UPL30

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: P1432559
REPORT IS A COMBINATION OF REPORTS P1431648 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-12-UNV-TASM-L835-UPL30
Description: Elevate Round Highbay at, 12000 lumens, 3500K 80CRI LEDs with TASM lens
Light Source: -
Ballast/Driver: -

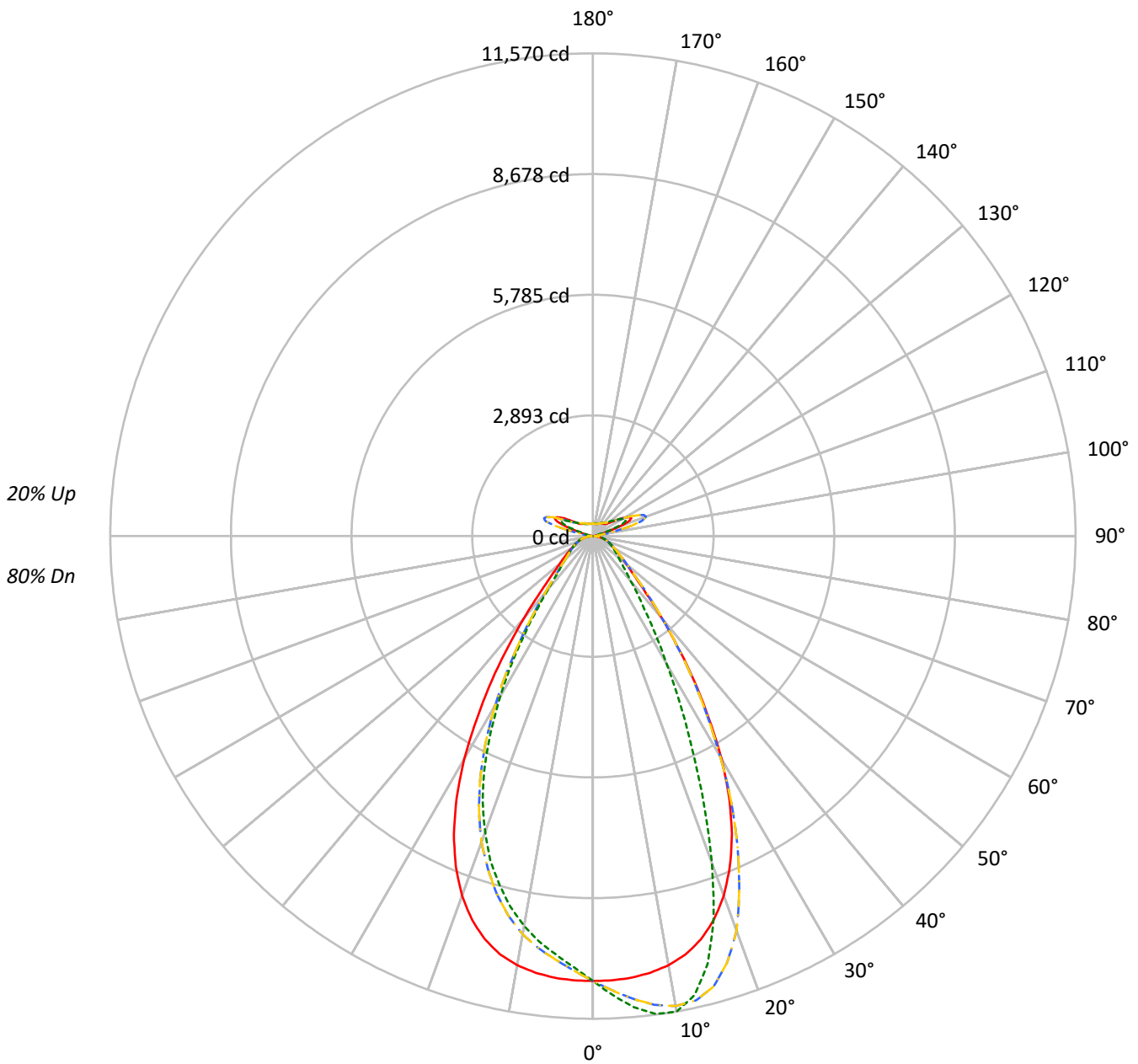
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14880.1 lumens
Efficiency: N/A
Efficacy: 171.6 lumens/watt
Spacing Criteria (0/90/45): 0.99 / 0.84 / 0.9
Luminous Opening: Vertical Cylinder (Dia: 1.71' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 86.7
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

TEST NUMBER: P1432559
CATALOG NUMBER: EHBR1-12-UNV-TASM-L835-UPL30

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - · - · 90°-270° - · - · 135°-315°



TEST NUMBER: P1432559
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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1013.9	6.8
10°-20°	2758.3	18.5
20°-30°	3234.9	21.7
30°-40°	2249.7	15.1
40°-50°	1118.0	7.5
50°-60°	668.7	4.5
60°-70°	470.6	3.2
70°-80°	303.2	2.0
80°-90°	101.5	0.7
90°-100°	78.4	0.5
100°-110°	516.2	3.5
110°-120°	954.5	6.4
120°-130°	566.6	3.8
130°-140°	341.7	2.3
140°-150°	235.6	1.6
150°-160°	152.9	1.0
160°-170°	86.9	0.6
170°-180°	28.7	0.2
0°-30°	7007.1	47.1
0°-40°	9256.7	62.2
0°-60°	11043.4	74.2
0°-90°	11918.7	80.1
90°-120°	1549.1	10.4
90°-150°	2693.0	18.1
90°-180°	2961.0	19.9
0°-180°	14880.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	10663	10663	10663	10663	10663	
5°	10626	11336	10626	10075	10626	1008
15°	10008	10617	10008	8654	10008	2797
25°	7886	5615	7886	6149	7886	3570
35°	4221	2174	4221	2815	4221	2635
45°	1526	1023	1526	1115	1526	1249
55°	773	662	773	685	773	707
65°	471	469	471	468	471	473
75°	282	300	282	291	282	296
85°	78	99	78	94	78	87
90°	22	23	22	22	22	13
95°	42	38	42	36	42	44
105°	237	118	237	180	237	320
115°	1016	866	1016	825	1016	926
125°	650	679	650	595	650	598
135°	409	472	409	434	409	324
145°	369	386	369	359	369	231
155°	327	340	327	316	327	153
165°	304	312	304	298	304	87
175°	301	304	301	296	301	29
180°	300	300	300	300	300	



TEST NUMBER: P1432559
 CATALOG NUMBER: EHBR1-12-UNV-TASM-L835-UPL30

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	10662.7	10662.7	10662.7	10662.7	10662.7	10662.7	10662.7	10662.7	10662.7	10662.7	10662.7
2.5°	10656.5	10794.3	10905.8	10979.4	11015.8	10979.4	10905.8	10794.3	10656.5	10519.6	10425.4
5°	10626.4	10902.3	11136.1	11289.0	11336.4	11289.0	11136.1	10902.3	10626.4	10365.6	10192.7
7.5°	10554.2	10984.1	11331.4	11509.9	11553.5	11509.9	11331.4	10984.1	10554.2	10185.1	9966.6
10°	10444.0	11035.7	11437.0	11564.9	11570.1	11564.9	11437.0	11035.7	10444.0	9946.8	9689.1
12.5°	10268.3	11017.3	11401.6	11359.6	11264.2	11359.6	11401.6	11017.3	10268.3	9655.6	9330.5
15°	10008.4	10908.3	11177.4	10835.7	10617.2	10835.7	11177.4	10908.3	10008.4	9262.6	8885.5
17.5°	9642.0	10704.3	10709.6	10033.5	9621.3	10033.5	10709.6	10704.3	9642.0	8781.9	8366.7
20°	9170.0	10377.3	10065.3	8828.9	8340.4	8828.9	10065.3	10377.3	9170.0	8213.6	7806.2
22.5°	8578.2	9936.1	9168.2	7617.1	6950.6	7617.1	9168.2	9936.1	8578.2	7552.9	7128.7
25°	7886.0	9395.7	8203.1	6296.6	5614.8	6296.6	8203.1	9395.7	7886.0	6765.5	6382.0
27.5°	7071.8	8710.7	7175.4	5145.4	4516.3	5145.4	7175.4	8710.7	7071.8	5952.5	5560.8
30°	6167.5	7832.5	6105.9	4097.6	3518.4	4097.6	6105.9	7832.5	6167.5	5039.2	4688.5
32.5°	5154.9	6971.8	5078.8	3283.2	2792.6	3283.2	5078.8	6971.8	5154.9	4167.6	3801.1
35°	4220.8	5895.0	4152.6	2579.8	2174.2	2579.8	4152.6	5895.0	4220.8	3344.8	2985.0
37.5°	3312.4	4877.4	3310.3	2077.4	1763.5	2077.4	3310.3	4877.4	3312.4	2600.5	2308.3
40°	2577.1	3813.7	2593.7	1658.3	1415.2	1658.3	2593.7	3813.7	2577.1	1978.6	1791.7
42.5°	1952.6	2916.2	2038.6	1361.0	1202.1	1361.0	2038.6	2916.2	1952.6	1559.0	1419.0
45°	1526.3	2146.0	1592.0	1148.2	1023.3	1148.2	1592.0	2146.0	1526.3	1255.5	1161.4
47.5°	1243.1	1658.5	1290.2	984.9	897.4	984.9	1290.2	1658.5	1243.1	1061.9	991.5
50°	1044.1	1272.6	1071.3	859.7	801.0	859.7	1071.3	1272.6	1044.1	909.3	862.4
52.5°	897.0	1037.9	912.3	766.2	726.6	766.2	912.3	1037.9	897.0	795.6	766.4
55°	773.0	872.5	793.4	689.0	661.6	689.0	793.4	872.5	773.0	708.0	686.4
57.5°	678.8	740.2	689.0	623.2	605.0	623.2	689.0	740.2	678.8	630.0	618.4
60°	595.4	641.0	608.0	565.8	560.7	565.8	608.0	641.0	595.4	566.8	559.2
62.5°	531.2	560.0	537.6	514.2	509.7	514.2	537.6	560.0	531.2	509.3	510.6
65°	471.3	498.0	480.5	467.9	469.4	467.9	480.5	498.0	471.3	461.1	463.2
67.5°	424.9	438.9	431.2	424.1	425.9	424.1	431.2	438.9	424.9	414.8	418.2
70°	375.5	390.5	382.6	383.7	386.7	383.7	382.6	390.5	375.5	372.5	375.1
72.5°	328.3	339.9	337.3	339.7	342.9	339.7	337.3	339.9	328.3	327.9	328.1
75°	281.9	290.7	291.9	295.3	300.3	295.3	291.9	290.7	281.9	278.9	282.5
77.5°	231.4	241.4	245.1	249.7	257.2	249.7	245.1	241.4	231.4	233.3	235.2
80°	184.9	189.6	197.9	201.3	211.8	201.3	197.9	189.6	184.9	181.5	184.1
82.5°	135.4	139.5	146.7	153.1	159.1	153.1	146.7	139.5	135.4	133.7	133.9
85°	78.2	84.6	89.4	97.0	98.8	97.0	89.4	84.6	78.2	80.0	78.2
87.5°	27.3	29.4	33.6	36.6	36.8	36.6	33.6	29.4	27.3	28.0	25.4
90°	21.5	36.6	63.0	34.0	22.9	34.0	63.0	36.6	21.5	38.0	59.3
92.5°	28.1	49.6	89.3	45.5	31.1	45.5	89.3	49.6	28.1	49.5	95.5
95°	41.5	61.2	113.9	50.4	37.7	50.4	113.9	61.2	41.5	65.9	133.2
97.5°	64.5	75.9	128.8	53.7	45.9	53.7	128.8	75.9	64.5	80.7	153.0
100°	85.8	85.8	235.5	62.0	52.5	62.0	235.5	85.8	85.8	99.0	238.5
102.5°	130.2	168.1	546.2	124.6	64.0	124.6	546.2	168.1	130.2	186.1	506.2
105°	237.0	385.1	962.0	323.4	118.5	323.4	962.0	385.1	237.0	389.8	902.2
107.5°	448.9	718.6	1239.6	638.8	277.8	638.8	1239.6	718.6	448.9	690.4	1189.9
110°	718.4	1004.4	1352.9	875.5	563.8	875.5	1352.9	1004.4	718.4	948.4	1247.4



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 CATALOG NUMBER: EHBR1-12-UNV-TASM-L835-UPL30

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	935.3	1119.4	1321.7	970.7	780.6	970.7	1321.7	1119.4	935.3	1047.0	1194.9
115°	1016.0	1103.0	1180.4	967.5	866.0	967.5	1180.4	1103.0	1016.0	1022.4	1066.7
117.5°	981.4	1009.4	1019.5	908.3	871.0	908.3	1019.5	1009.4	981.4	919.0	905.7
120°	886.1	874.7	858.6	821.2	821.7	821.2	858.6	874.7	886.1	802.3	756.2
122.5°	766.5	741.7	725.5	732.7	754.3	732.7	725.5	741.7	766.5	682.6	648.0
125°	649.8	625.1	632.1	657.1	679.0	657.1	632.1	625.1	649.8	579.3	570.9
127.5°	551.4	539.8	564.7	593.1	611.6	593.1	564.7	539.8	551.4	507.0	516.7
130°	480.9	484.0	517.0	540.7	552.4	540.7	517.0	484.0	480.9	459.5	482.3
132.5°	436.8	449.7	481.1	501.5	508.2	501.5	481.1	449.7	436.8	430.4	458.1
135°	409.0	428.3	456.6	470.1	472.2	470.1	456.6	428.3	409.0	411.0	436.8
137.5°	392.8	412.1	433.7	444.0	440.9	444.0	433.7	412.1	392.8	398.0	417.6
140°	383.2	402.4	412.3	424.2	421.4	424.2	412.3	402.4	383.2	386.5	401.3
142.5°	373.5	391.3	396.1	404.8	401.7	404.8	396.1	391.3	373.5	376.8	386.7
145°	368.8	381.8	378.3	390.0	385.5	390.0	378.3	381.8	368.8	370.2	375.4
147.5°	360.6	370.2	365.3	375.4	370.8	375.4	365.3	370.2	360.6	360.6	362.5
150°	350.9	357.5	350.7	362.5	361.2	362.5	350.7	357.5	350.9	349.3	351.1
152.5°	337.9	344.5	337.9	351.3	349.9	351.3	337.9	344.5	337.9	336.3	338.1
155°	326.9	330.2	326.9	340.2	340.4	340.2	326.9	330.2	326.9	326.7	327.1
157.5°	319.0	320.9	319.2	331.0	331.2	331.0	319.2	320.9	319.0	319.0	319.2
160°	311.6	314.9	313.4	323.5	323.8	323.5	313.4	314.9	311.6	313.0	313.2
162.5°	308.7	308.7	307.6	317.6	318.0	317.6	307.6	308.7	308.7	308.7	310.3
165°	304.5	306.1	303.2	310.1	312.1	310.1	303.2	306.1	304.5	305.9	305.9
167.5°	303.2	301.6	302.0	307.5	309.5	307.5	302.0	301.6	303.2	304.7	304.7
170°	300.1	300.3	299.1	304.6	306.6	304.6	299.1	300.3	300.1	301.8	303.2
172.5°	300.7	300.7	298.0	301.9	305.7	301.9	298.0	300.7	300.7	302.2	303.8
175°	301.1	299.6	298.4	300.7	304.4	300.7	298.4	299.6	301.1	300.9	300.9
177.5°	299.4	299.8	300.2	302.5	307.9	302.5	300.2	299.8	299.4	300.9	300.9
180°	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8



TEST NUMBER: P1432559

CATALOG NUMBER: EHBR1-12-UNV-TASM-L835-UPL30

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	10662.7	10662.7	10662.7	10662.7	10662.7	10662.7
2.5°	10353.0	10346.2	10353.0	10425.4	10519.6	10656.5
5°	10112.5	10074.9	10112.5	10192.7	10365.6	10626.4
7.5°	9832.4	9810.6	9832.4	9966.6	10185.1	10554.2
10°	9537.5	9488.1	9537.5	9689.1	9946.8	10444.0
12.5°	9173.9	9108.6	9173.9	9330.5	9655.6	10268.3
15°	8711.7	8654.4	8711.7	8885.5	9262.6	10008.4
17.5°	8215.7	8163.7	8215.7	8366.7	8781.9	9642.0
20°	7592.6	7551.8	7592.6	7806.2	8213.6	9170.0
22.5°	6939.1	6900.8	6939.1	7128.7	7552.9	8578.2
25°	6170.1	6149.2	6170.1	6382.0	6765.5	7886.0
27.5°	5339.0	5303.7	5339.0	5560.8	5952.5	7071.8
30°	4490.1	4431.6	4490.1	4688.5	5039.2	6167.5
32.5°	3659.8	3617.6	3659.8	3801.1	4167.6	5154.9
35°	2857.2	2815.0	2857.2	2985.0	3344.8	4220.8
37.5°	2226.4	2151.8	2226.4	2308.3	2600.5	3312.4
40°	1688.6	1676.5	1688.6	1791.7	1978.6	2577.1
42.5°	1374.6	1342.0	1374.6	1419.0	1559.0	1952.6
45°	1127.9	1115.1	1127.9	1161.4	1255.5	1526.3
47.5°	969.9	975.5	969.9	991.5	1061.9	1243.1
50°	852.2	855.6	852.2	862.4	909.3	1044.1
52.5°	765.4	762.4	765.4	766.4	795.6	897.0
55°	688.6	684.8	688.6	686.4	708.0	773.0
57.5°	621.4	624.2	621.4	618.4	630.0	678.8
60°	561.5	564.1	561.5	559.2	566.8	595.4
62.5°	510.8	512.5	510.8	510.6	509.3	531.2
65°	465.7	467.5	465.7	463.2	461.1	471.3
67.5°	422.5	422.5	422.5	418.2	414.8	424.9
70°	381.9	381.7	381.9	375.1	372.5	375.5
72.5°	333.1	337.9	333.1	328.1	327.9	328.3
75°	285.7	291.3	285.7	282.5	278.9	281.9
77.5°	237.8	246.3	237.8	235.2	233.3	231.4
80°	188.5	197.9	188.5	184.1	181.5	184.9
82.5°	139.3	146.3	139.3	133.9	133.7	135.4
85°	83.0	94.2	83.0	78.2	80.0	78.2
87.5°	26.6	34.0	26.6	25.4	28.0	27.3
90°	34.7	21.5	34.7	59.3	38.0	21.5
92.5°	52.8	31.4	52.8	95.5	49.5	28.1
95°	61.0	36.4	61.0	133.2	65.9	41.5
97.5°	67.6	46.4	67.6	153.0	80.7	64.5
100°	79.0	61.2	79.0	238.5	99.0	85.8
102.5°	167.8	103.9	167.8	506.2	186.1	130.2
105°	353.5	179.5	353.5	902.2	389.8	237.0
107.5°	632.7	310.9	632.7	1189.9	690.4	448.9
110°	839.8	580.4	839.8	1247.4	948.4	718.4



TEST NUMBER: P1432559
 CATALOG NUMBER: EHBR1-12-UNV-TASM-L835-UPL30

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	902.2	784.1	902.2	1194.9	1047.0	935.3
115°	867.7	825.1	867.7	1066.7	1022.4	1016.0
117.5°	792.2	797.2	792.2	905.7	919.0	981.4
120°	705.1	738.0	705.1	756.2	802.3	886.1
122.5°	624.7	664.2	624.7	648.0	682.6	766.5
125°	555.7	595.3	555.7	570.9	579.3	649.8
127.5°	508.0	534.6	508.0	516.7	507.0	551.4
130°	470.5	493.5	470.5	482.3	459.5	480.9
132.5°	444.4	459.2	444.4	458.1	430.4	436.8
135°	421.5	434.5	421.5	436.8	411.0	409.0
137.5°	402.0	413.4	402.0	417.6	398.0	392.8
140°	384.4	394.0	384.4	401.3	386.5	383.2
142.5°	366.6	373.1	366.6	386.7	376.8	373.5
145°	353.8	358.8	353.8	375.4	370.2	368.8
147.5°	342.7	346.0	342.7	362.5	360.6	360.6
150°	331.6	334.9	331.6	351.1	349.3	350.9
152.5°	320.3	323.8	320.3	338.1	336.3	337.9
155°	312.4	315.9	312.4	327.1	326.7	326.9
157.5°	307.9	309.9	307.9	319.2	319.0	319.0
160°	303.6	305.5	303.6	313.2	313.0	311.6
162.5°	299.2	301.0	299.2	310.3	308.7	308.7
165°	297.9	298.1	297.9	305.9	305.9	304.5
167.5°	296.4	298.1	296.4	304.7	304.7	303.2
170°	296.6	296.8	296.6	303.2	301.8	300.1
172.5°	297.0	297.2	297.0	303.8	302.2	300.7
175°	295.8	296.0	295.8	300.9	300.9	301.1
177.5°	297.6	297.8	297.6	300.9	300.9	299.4
180°	299.8	299.8	299.8	299.8	299.8	299.8



TEST NUMBER: P1432559
 CATALOG NUMBER: EHBR1-12-UNV-TASM-L835-UPL30

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	13.19	14.13	13.86	14.80	15.58	12.50	13.45	13.18	14.12	14.90
	3H	14.73	15.57	15.42	16.25	17.06	14.34	15.19	15.04	15.87	16.68
	4H	15.36	16.15	16.07	16.84	17.67	15.12	15.91	15.83	16.60	17.43
	6H	15.83	16.56	16.55	17.26	18.10	15.76	16.49	16.48	17.19	18.03
	8H	15.98	16.67	16.71	17.39	18.23	15.98	16.67	16.71	17.39	18.23
	12H	16.05	16.71	16.78	17.42	18.28	16.10	16.76	16.84	17.47	18.33
4H	2H	13.59	14.38	14.30	15.07	15.90	13.07	13.86	13.78	14.55	15.38
	3H	15.38	16.03	16.10	16.76	17.60	15.12	15.77	15.84	16.50	17.34
	4H	16.15	16.74	16.88	17.47	18.35	16.02	16.61	16.76	17.35	18.22
	6H	16.76	17.27	17.51	18.03	18.91	16.79	17.30	17.54	18.05	18.94
	8H	16.95	17.43	17.71	18.18	19.07	17.06	17.53	17.82	18.29	19.18
	12H	17.05	17.48	17.83	18.25	19.15	17.22	17.64	18.00	18.42	19.31
8H	4H	16.39	16.87	17.15	17.62	18.51	16.29	16.77	17.05	17.52	18.41
	6H	17.13	17.52	17.92	18.32	19.21	17.20	17.58	17.98	18.38	19.28
	8H	17.40	17.75	18.21	18.55	19.46	17.55	17.90	18.35	18.70	19.60
	12H	17.57	17.87	18.37	18.66	19.63	17.79	18.10	18.59	18.88	19.85
12H	4H	16.40	16.82	17.17	17.60	18.49	16.30	16.72	17.08	17.50	18.39
	6H	17.18	17.52	17.98	18.32	19.23	17.24	17.59	18.05	18.39	19.30
	8H	17.49	17.79	18.29	18.57	19.55	17.64	17.94	18.44	18.73	19.70

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

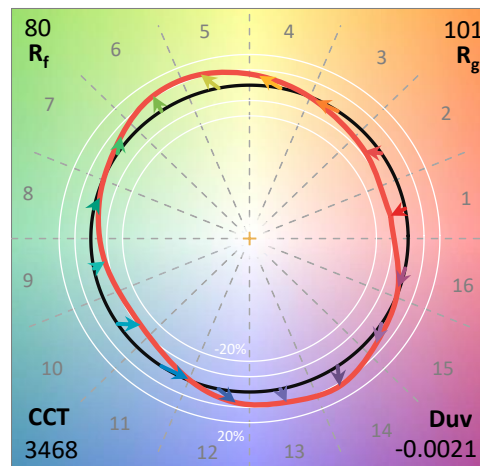
Test Information

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
 CIE u': 0.2375
 CIE v': 0.5091
 Duv: -0.0021
 CIE x: 0.4049
 CIE y: 0.3856
 CIE z: 0.2095
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 581
 Purity: 37.24544
 Rf: 80.1
 Rg: 101

CRI (Ra):	82.1		
R1:	82.9	R9:	27.6
R2:	85.6	R10:	63.8
R3:	85.9	R11:	81.2
R4:	82.8	R12:	57.2
R5:	81.0	R13:	82.6
R6:	79.7	R14:	91.0
R7:	86.5	R15:	79.4
R8:	72.1		



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

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CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-3

Photopic Flux vs. Wavelength

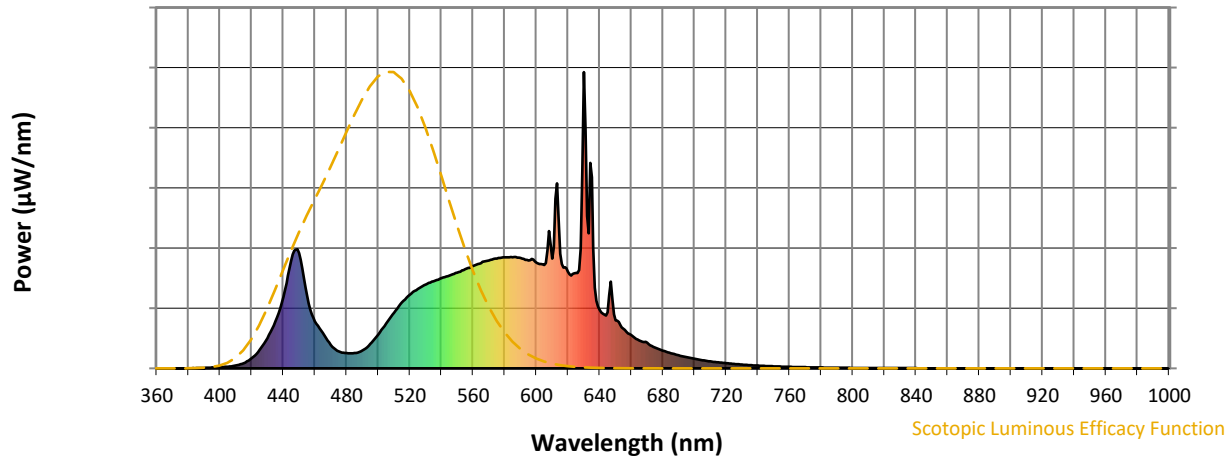


Photopic Lumens: NR

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			

Summary

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

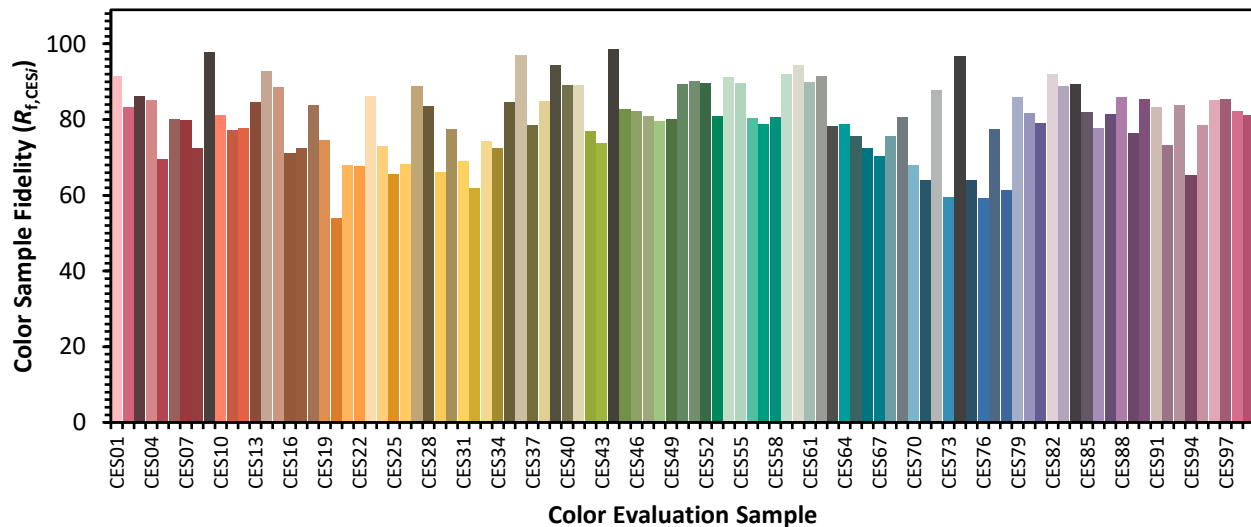


Color Vector Graphics

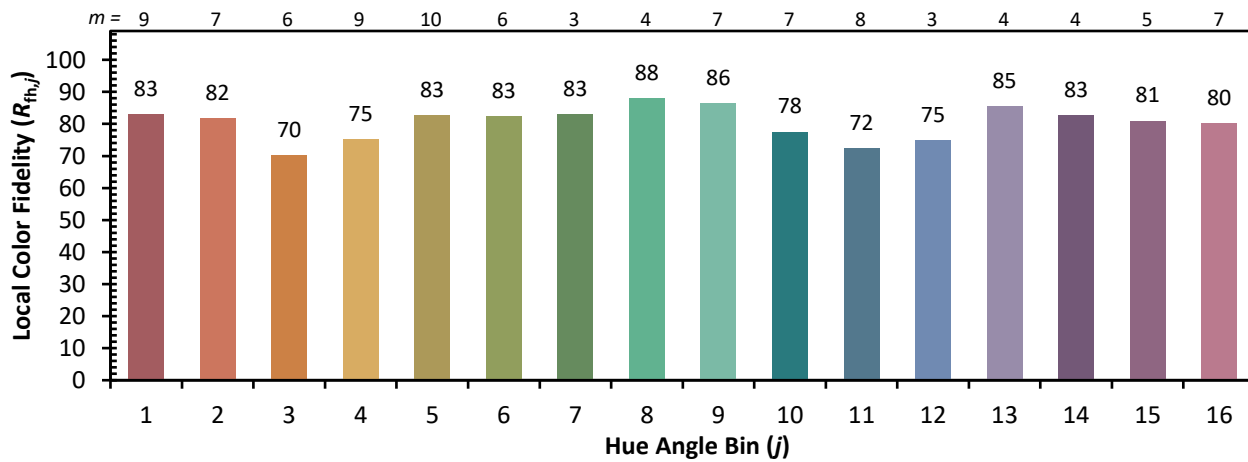


Individual Sample Fidelity Index ($R_{f,i}$)

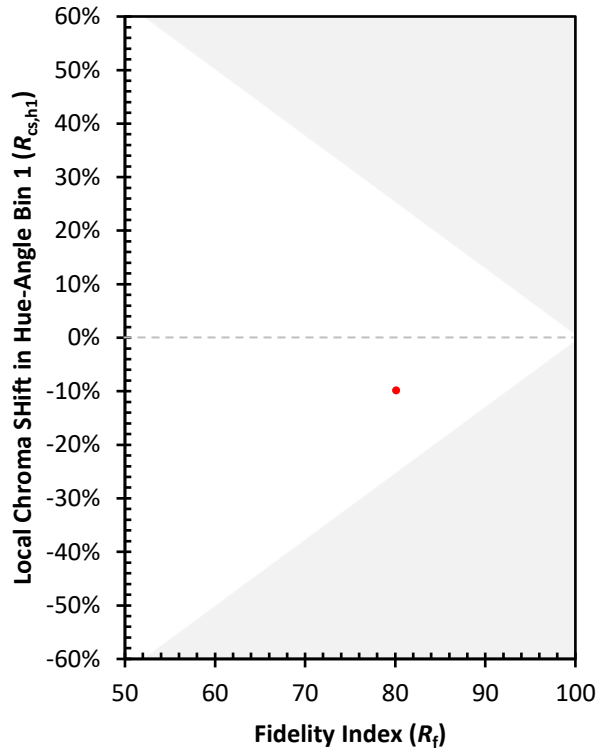
CES01 = 86	CES26 = 68	CES51 = 90	CES76 = 59
CES02 = 62	CES27 = 89	CES52 = 90	CES77 = 78
CES03 = 31	CES28 = 84	CES53 = 81	CES78 = 61
CES04 = 70	CES29 = 66	CES54 = 91	CES79 = 86
CES05 = 49	CES30 = 77	CES55 = 90	CES80 = 82
CES06 = 51	CES31 = 69	CES56 = 80	CES81 = 79
CES07 = 42	CES32 = 62	CES57 = 79	CES82 = 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	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)