

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: P1432875

Luminaire Tested: EHBR1-18-UNV-TASM-L850-UPL12

Issue Date: 3/20/2026

**Test Information**

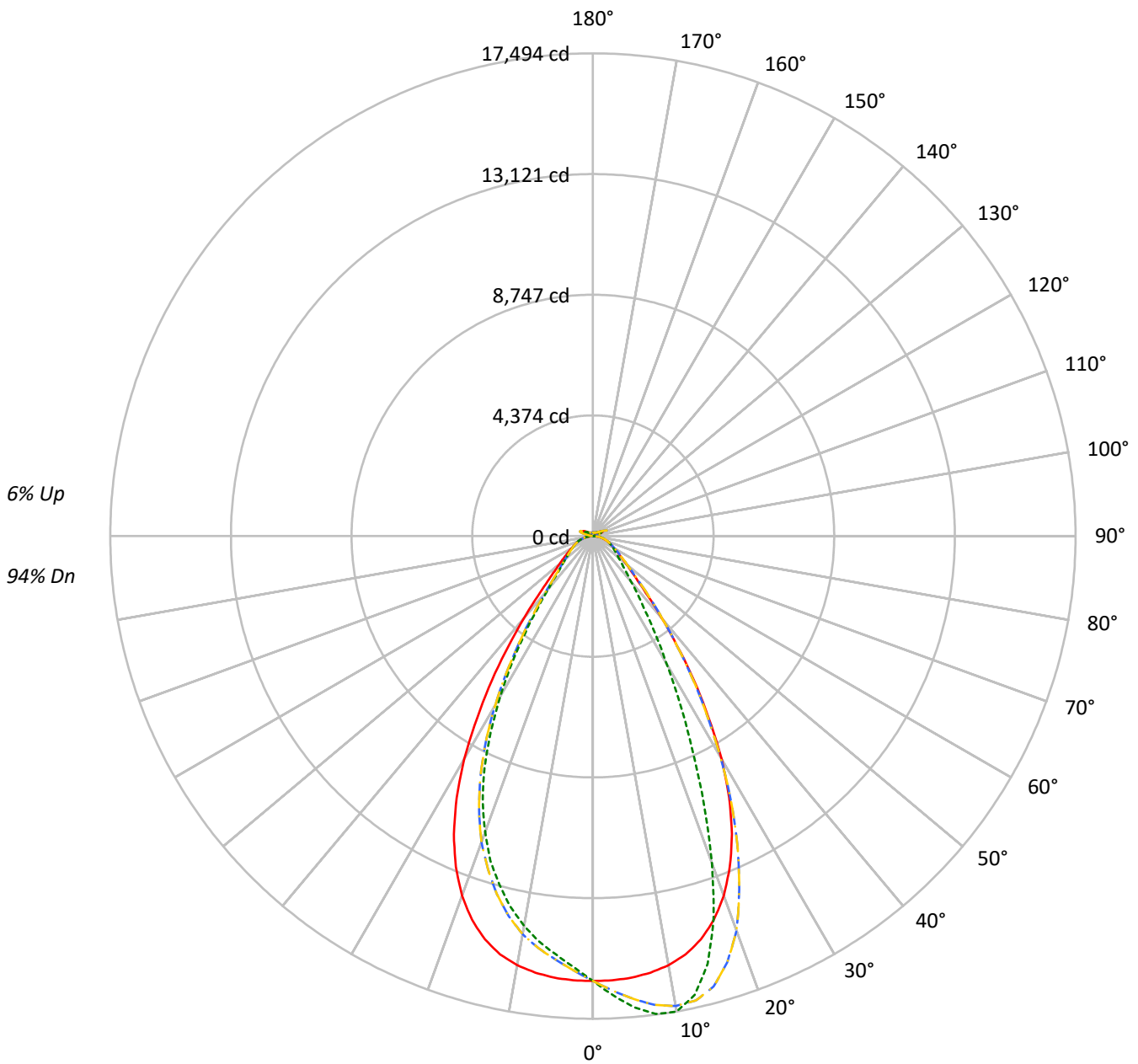
Test Method: LM-79-2019  
Report Number: P1432875  
REPORT IS A COMBINATION OF REPORTS P1431676 AND P1431635  
Test Lab: INNOVATION CENTER  
Issue Date: 3/20/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: EHBR1-18-UNV-TASM-L850-UPL12  
Description: Elevate Round Highbay at, 18000 lumens, 5000K 80CRI LEDs with TASM lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19214.7 lumens  
Efficiency: N/A  
Efficacy: 188.2 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: Direct  
  
Input Watts (W): 102.1  
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: P1432875  
CATALOG NUMBER: EHBR1-18-UNV-TASM-L850-UPL12

### Luminous Intensity Polar Plot



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





TEST NUMBER: P1432875  
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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1533.0	8.0
10°-20°	4170.6	21.7
20°-30°	4891.2	25.5
30°-40°	3401.6	17.7
40°-50°	1690.4	8.8
50°-60°	1011.0	5.3
60°-70°	711.6	3.7
70°-80°	458.4	2.4
80°-90°	147.7	0.8
90°-100°	32.1	0.2
100°-110°	208.0	1.1
110°-120°	384.0	2.0
120°-130°	228.5	1.2
130°-140°	138.5	0.7
140°-150°	96.2	0.5
150°-160°	63.1	0.3
160°-170°	36.6	0.2
170°-180°	12.2	0.1
0°-30°	10594.8	55.1
0°-40°	13996.3	72.8
0°-60°	16697.8	86.9
0°-90°	18015.5	93.8
90°-120°	624.1	3.2
90°-150°	1087.3	5.7
90°-180°	1199.0	6.2
0°-180°	19214.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	16122	16122	16122	16122	16122	
5°	16067	17141	16067	15234	16067	1525
15°	15133	16053	15133	13086	15133	4229
25°	11924	8490	11924	9298	11924	5398
35°	6382	3287	6382	4256	6382	3984
45°	2308	1547	2308	1686	2308	1889
55°	1169	1000	1169	1035	1169	1069
65°	713	710	713	707	713	716
75°	426	454	426	440	426	447
85°	118	149	118	142	118	131
90°	9	11	9	9	9	10
95°	17	17	17	15	17	18
105°	96	50	96	72	96	129
115°	409	350	409	332	409	372
125°	262	275	262	240	262	241
135°	166	192	166	175	166	132
145°	151	158	151	146	151	94
155°	135	141	135	131	135	63
165°	128	133	128	126	128	36
175°	129	132	129	126	129	12
180°	129	129	129	129	129	



TEST NUMBER: P1432875  
 CATALOG NUMBER: EHBR1-18-UNV-TASM-L850-UPL12

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	16122.3	16122.3	16122.3	16122.3	16122.3	16122.3	16122.3	16122.3	16122.3	16122.3	16122.3
2.5°	16112.9	16321.2	16489.9	16601.2	16656.2	16601.2	16489.9	16321.2	16112.9	15905.8	15763.5
5°	16067.3	16484.5	16837.9	17069.1	17140.7	17069.1	16837.9	16484.5	16067.3	15673.1	15411.5
7.5°	15958.2	16608.1	17133.3	17403.2	17469.1	17403.2	17133.3	16608.1	15958.2	15400.0	15069.7
10°	15791.6	16686.1	17292.9	17486.3	17494.2	17486.3	17292.9	16686.1	15791.6	15039.7	14650.0
12.5°	15525.8	16658.3	17239.4	17175.9	17031.6	17175.9	17239.4	16658.3	15525.8	14599.5	14108.0
15°	15132.8	16493.5	16900.5	16383.8	16053.3	16383.8	16900.5	16493.5	15132.8	14005.1	13435.0
17.5°	14579.0	16185.2	16193.0	15170.9	14547.5	15170.9	16193.0	16185.2	14579.0	13278.3	12650.5
20°	13865.2	15690.6	15219.0	13349.5	12610.9	13349.5	15219.0	15690.6	13865.2	12419.2	11803.1
22.5°	12970.3	15023.7	13862.4	11517.1	10509.4	11517.1	13862.4	15023.7	12970.3	11420.0	10778.8
25°	11923.7	14206.5	12403.2	9520.5	8489.7	9520.5	12403.2	14206.5	11923.7	10229.5	9649.6
27.5°	10692.6	13170.8	10849.3	7779.8	6828.8	7779.8	10849.3	13170.8	10692.6	9000.3	8408.1
30°	9325.3	11843.0	9232.1	6195.7	5319.8	6195.7	9232.1	11843.0	9325.3	7619.3	7089.1
32.5°	7794.4	10541.6	7679.1	4964.3	4222.5	4964.3	7679.1	10541.6	7794.4	6301.5	5747.3
35°	6381.9	8913.2	6278.9	3900.8	3287.4	3900.8	6278.9	8913.2	6381.9	5057.5	4513.3
37.5°	5008.5	7374.7	5005.2	3141.1	2666.5	3141.1	5005.2	7374.7	5008.5	3932.0	3490.2
40°	3896.6	5766.4	3921.6	2507.4	2139.8	2507.4	3921.6	5766.4	3896.6	2991.7	2709.1
42.5°	2952.4	4409.3	3082.5	2057.9	1817.5	2057.9	3082.5	4409.3	2952.4	2357.1	2145.5
45°	2307.9	3244.7	2407.0	1736.2	1547.2	1736.2	2407.0	3244.7	2307.9	1898.3	1756.2
47.5°	1879.5	2507.7	1950.8	1489.2	1356.8	1489.2	1950.8	2507.7	1879.5	1605.6	1499.2
50°	1578.7	1924.2	1619.8	1300.0	1211.1	1300.0	1619.8	1924.2	1578.7	1374.9	1303.9
52.5°	1356.2	1569.3	1379.4	1158.5	1098.6	1158.5	1379.4	1569.3	1356.2	1202.9	1158.8
55°	1168.7	1319.3	1199.6	1041.8	1000.4	1041.8	1199.6	1319.3	1168.7	1070.5	1037.9
57.5°	1026.4	1119.1	1041.8	942.3	914.8	942.3	1041.8	1119.1	1026.4	952.6	935.1
60°	900.3	969.2	919.3	855.6	847.7	855.6	919.3	969.2	900.3	857.1	845.6
62.5°	803.2	846.7	813.0	777.6	770.6	777.6	813.0	846.7	803.2	770.0	772.1
65°	712.6	753.0	726.5	707.5	709.8	707.5	726.5	753.0	712.6	697.1	700.5
67.5°	642.4	663.5	652.1	641.2	643.9	641.2	652.1	663.5	642.4	627.3	632.4
70°	567.8	590.5	578.7	580.1	584.7	580.1	578.7	590.5	567.8	563.3	567.2
72.5°	496.4	513.9	510.0	513.6	518.5	513.6	510.0	513.9	496.4	495.8	496.1
75°	426.2	439.6	441.3	446.6	454.1	446.6	441.3	439.6	426.2	421.7	427.2
77.5°	349.8	364.9	370.6	377.6	388.8	377.6	370.6	364.9	349.8	352.8	355.5
80°	279.7	286.6	299.3	304.4	320.1	304.4	299.3	286.6	279.7	274.6	278.5
82.5°	204.7	211.0	221.9	231.5	240.7	231.5	221.9	211.0	204.7	202.3	202.6
85°	118.2	127.9	135.2	146.7	149.3	146.7	135.2	127.9	118.2	120.9	118.2
87.5°	41.5	44.4	50.8	55.3	55.6	55.3	50.8	44.4	41.5	42.3	38.4
90°	8.8	15.1	25.9	14.9	11.0	14.9	25.9	15.1	8.8	15.4	24.1
92.5°	11.5	20.3	36.5	19.5	14.3	19.5	36.5	20.3	11.5	20.0	38.6
95°	17.1	25.0	46.4	21.5	17.0	21.5	46.4	25.0	17.1	26.7	53.7
97.5°	26.3	30.9	52.4	22.9	20.2	22.9	52.4	30.9	26.3	32.6	61.7
100°	34.9	34.9	95.2	26.1	22.9	26.1	95.2	34.9	34.9	40.2	96.0
102.5°	52.7	68.2	220.2	51.7	27.5	51.7	220.2	68.2	52.7	75.1	203.5
105°	95.6	155.3	387.1	131.4	49.6	131.4	387.1	155.3	95.6	157.0	362.5
107.5°	180.7	289.2	498.6	258.1	113.6	258.1	498.6	289.2	180.7	277.7	478.2
110°	288.9	404.0	544.1	353.1	228.4	353.1	544.1	404.0	288.9	381.2	501.4



TEST NUMBER: P1432875

CATALOG NUMBER: EHBR1-18-UNV-TASM-L850-UPL12

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	375.9	450.2	531.6	391.4	315.4	391.4	531.6	450.2	375.9	420.8	480.2
115°	408.6	443.6	474.8	390.1	349.8	390.1	474.8	443.6	408.6	410.9	428.8
117.5°	394.8	406.0	410.2	366.3	351.8	366.3	410.2	406.0	394.8	369.6	364.1
120°	356.5	351.9	345.9	331.3	331.9	331.3	345.9	351.9	356.5	322.8	304.0
122.5°	308.6	298.7	292.4	296.1	304.9	296.1	292.4	298.7	308.6	274.9	260.8
125°	261.8	251.9	255.1	265.7	274.8	265.7	255.1	251.9	261.8	233.7	230.2
127.5°	222.5	217.9	228.1	240.0	247.8	240.0	228.1	217.9	222.5	204.7	208.3
130°	194.4	195.5	208.9	219.2	224.1	219.2	208.9	195.5	194.4	185.9	194.8
132.5°	177.0	181.9	194.8	203.6	206.6	203.6	194.8	181.9	177.0	174.7	185.6
135°	166.1	173.3	185.2	190.8	192.0	190.8	185.2	173.3	166.1	167.0	177.0
137.5°	159.7	167.1	175.9	180.5	179.5	180.5	175.9	167.1	159.7	162.1	169.6
140°	156.1	163.5	167.4	172.6	171.9	172.6	167.4	163.5	156.1	157.5	163.4
142.5°	152.5	159.1	161.1	164.9	163.9	164.9	161.1	159.1	152.5	153.7	157.8
145°	150.8	155.7	154.1	159.0	157.7	159.0	154.1	155.7	150.8	151.1	153.4
147.5°	147.4	151.1	149.1	153.4	152.0	153.4	149.1	151.1	147.4	147.4	148.4
150°	143.8	146.5	143.5	148.4	148.3	148.4	143.5	146.5	143.8	143.1	144.1
152.5°	138.8	141.5	138.8	144.4	144.0	144.4	138.8	141.5	138.8	138.1	139.1
155°	134.8	136.1	134.8	140.4	140.7	140.4	134.8	136.1	134.8	134.5	135.1
157.5°	132.1	133.0	132.4	137.4	137.7	137.4	132.4	133.0	132.1	132.1	132.4
160°	130.1	131.3	131.0	135.3	135.6	135.3	131.0	131.3	130.1	130.4	130.7
162.5°	129.3	129.3	129.3	133.5	134.1	133.5	129.3	129.3	129.3	129.3	130.0
165°	128.2	128.9	128.2	131.3	132.7	131.3	128.2	128.9	128.2	128.6	128.6
167.5°	128.2	127.5	128.1	131.0	132.3	131.0	128.1	127.5	128.2	128.5	128.5
170°	127.1	127.4	127.4	130.4	131.5	130.4	127.4	127.4	127.1	127.8	128.2
172.5°	128.1	128.1	127.7	129.9	131.8	129.9	127.7	128.1	128.1	128.4	129.1
175°	128.7	128.3	128.3	129.8	131.7	129.8	128.3	128.3	128.7	128.4	128.4
177.5°	128.0	128.6	129.2	130.7	133.3	130.7	129.2	128.6	128.0	128.4	128.4
180°	128.6	128.6	128.6	128.6	128.6	128.6	128.6	128.6	128.6	128.6	128.6



TEST NUMBER: P1432875

CATALOG NUMBER: EHBR1-18-UNV-TASM-L850-UPL12

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	16122.3	16122.3	16122.3	16122.3	16122.3	16122.3
2.5°	15654.0	15643.7	15654.0	15763.5	15905.8	16112.9
5°	15290.3	15233.5	15290.3	15411.5	15673.1	16067.3
7.5°	14866.7	14833.8	14866.7	15069.7	15400.0	15958.2
10°	14420.9	14346.2	14420.9	14650.0	15039.7	15791.6
12.5°	13871.3	13772.3	13871.3	14108.0	14599.5	15525.8
15°	13172.3	13085.5	13172.3	13435.0	14005.1	15132.8
17.5°	12422.3	12343.6	12422.3	12650.5	13278.3	14579.0
20°	11480.2	11418.5	11480.2	11803.1	12419.2	13865.2
22.5°	10491.9	10434.2	10491.9	10778.8	11420.0	12970.3
25°	9329.2	9297.8	9329.2	9649.6	10229.5	11923.7
27.5°	8072.7	8019.3	8072.7	8408.1	9000.3	10692.6
30°	6789.2	6700.6	6789.2	7089.1	7619.3	9325.3
32.5°	5533.6	5469.8	5533.6	5747.3	6301.5	7794.4
35°	4320.2	4256.3	4320.2	4513.3	5057.5	6381.9
37.5°	3366.3	3253.6	3366.3	3490.2	3932.0	5008.5
40°	2553.1	2534.9	2553.1	2709.1	2991.7	3896.6
42.5°	2078.4	2029.1	2078.4	2145.5	2357.1	2952.4
45°	1705.4	1686.0	1705.4	1756.2	1898.3	2307.9
47.5°	1466.6	1475.0	1466.6	1499.2	1605.6	1879.5
50°	1288.5	1293.6	1288.5	1303.9	1374.9	1578.7
52.5°	1157.2	1152.7	1157.2	1158.8	1202.9	1356.2
55°	1041.1	1035.4	1041.1	1037.9	1070.5	1168.7
57.5°	939.6	943.8	939.6	935.1	952.6	1026.4
60°	848.9	852.8	848.9	845.6	857.1	900.3
62.5°	772.4	774.8	772.4	772.1	770.0	803.2
65°	704.1	706.9	704.1	700.5	697.1	712.6
67.5°	638.8	638.8	638.8	632.4	627.3	642.4
70°	577.4	577.1	577.4	567.2	563.3	567.8
72.5°	503.6	510.9	503.6	496.1	495.8	496.4
75°	432.0	440.5	432.0	427.2	421.7	426.2
77.5°	359.4	372.5	359.4	355.5	352.8	349.8
80°	285.1	299.3	285.1	278.5	274.6	279.7
82.5°	210.7	221.3	210.7	202.6	202.3	204.7
85°	125.4	142.4	125.4	118.2	120.9	118.2
87.5°	40.2	51.4	40.2	38.4	42.3	41.5
90°	14.1	8.8	14.1	24.1	15.4	8.8
92.5°	21.4	12.9	21.4	38.6	20.0	11.5
95°	24.7	14.8	24.7	53.7	26.7	17.1
97.5°	27.3	19.1	27.3	61.7	32.6	26.3
100°	31.9	25.0	31.9	96.0	40.2	34.9
102.5°	67.6	42.1	67.6	203.5	75.1	52.7
105°	142.1	72.5	142.1	362.5	157.0	95.6
107.5°	254.3	125.2	254.3	478.2	277.7	180.7
110°	337.4	233.5	337.4	501.4	381.2	288.9



TEST NUMBER: P1432875

CATALOG NUMBER: EHBR1-18-UNV-TASM-L850-UPL12

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	362.5	315.3	362.5	480.2	420.8	375.9
115°	348.6	331.8	348.6	428.8	410.9	408.6
117.5°	318.3	320.5	318.3	364.1	369.6	394.8
120°	283.3	296.9	283.3	304.0	322.8	356.5
122.5°	251.3	267.1	251.3	260.8	274.9	308.6
125°	223.6	239.7	223.6	230.2	233.7	261.8
127.5°	204.4	215.3	204.4	208.3	204.7	222.5
130°	189.6	198.8	189.6	194.8	185.9	194.4
132.5°	179.3	185.3	179.3	185.6	174.7	177.0
135°	170.3	175.3	170.3	177.0	167.0	166.1
137.5°	162.8	167.1	162.8	169.6	162.1	159.7
140°	156.2	159.8	156.2	163.4	157.5	156.1
142.5°	149.2	151.9	149.2	157.8	153.7	152.5
145°	144.5	146.5	144.5	153.4	151.1	150.8
147.5°	140.5	141.8	140.5	148.4	147.4	147.4
150°	136.4	137.8	136.4	144.1	143.1	143.8
152.5°	132.1	133.8	132.1	139.1	138.1	138.8
155°	129.5	131.0	129.5	135.1	134.5	134.8
157.5°	128.1	129.4	128.1	132.4	132.1	132.1
160°	127.0	128.0	127.0	130.7	130.4	130.1
162.5°	125.6	126.6	125.6	130.0	129.3	129.3
165°	125.5	125.8	125.5	128.6	128.6	128.2
167.5°	125.2	125.8	125.2	128.5	128.5	128.2
170°	125.5	125.8	125.5	128.2	127.8	127.1
172.5°	126.1	126.4	126.1	129.1	128.4	128.1
175°	126.1	126.4	126.1	128.4	128.4	128.7
177.5°	127.1	127.4	127.1	128.4	128.4	128.0
180°	128.6	128.6	128.6	128.6	128.6	128.6



TEST NUMBER: P1432875  
 CATALOG NUMBER: EHBR1-18-UNV-TASM-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	15.71	16.82	16.18	17.26	17.74	15.03	16.14	15.50	16.58	17.05
	3H	17.25	18.24	17.75	18.70	19.22	16.87	17.86	17.36	18.32	18.84
	4H	17.89	18.81	18.40	19.29	19.83	17.65	18.58	18.17	19.06	19.59
	6H	18.37	19.22	18.90	19.71	20.26	18.30	19.15	18.82	19.64	20.19
	8H	18.52	19.33	19.06	19.84	20.39	18.52	19.32	19.06	19.84	20.39
	12H	18.60	19.36	19.14	19.87	20.45	18.65	19.41	19.19	19.92	20.50
4H	2H	16.12	17.04	16.64	17.52	18.06	15.60	16.52	16.11	17.00	17.54
	3H	17.92	18.68	18.44	19.21	19.76	17.66	18.42	18.18	18.95	19.50
	4H	18.69	19.38	19.24	19.91	20.51	18.57	19.25	19.11	19.79	20.38
	6H	19.31	19.90	19.88	20.46	21.07	19.34	19.93	19.91	20.49	21.10
	8H	19.50	20.06	20.08	20.62	21.23	19.61	20.16	20.18	20.72	21.33
	12H	19.61	20.10	20.20	20.69	21.31	19.78	20.26	20.37	20.85	21.47
8H	4H	18.94	19.49	19.52	20.05	20.67	18.85	19.40	19.42	19.96	20.57
	6H	19.68	20.13	20.29	20.74	21.36	19.75	20.20	20.36	20.80	21.43
	8H	19.95	20.35	20.58	20.97	21.61	20.10	20.50	20.73	21.12	21.76
	12H	20.13	20.48	20.75	21.08	21.79	20.35	20.70	20.97	21.30	22.01
12H	4H	18.95	19.44	19.54	20.03	20.65	18.86	19.34	19.45	19.93	20.55
	6H	19.73	20.13	20.35	20.75	21.38	19.79	20.19	20.42	20.81	21.45
	8H	20.05	20.39	20.66	21.00	21.71	20.20	20.55	20.82	21.15	21.86

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

**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

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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 5000K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-4

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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			

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.82**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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			

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Melanopic Flux vs. Wavelength



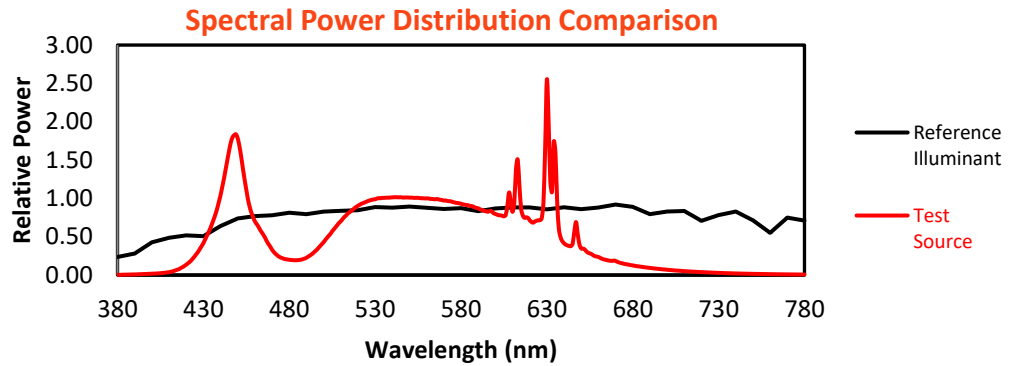
Melanopic Lumens: NR

M/P: 3.71

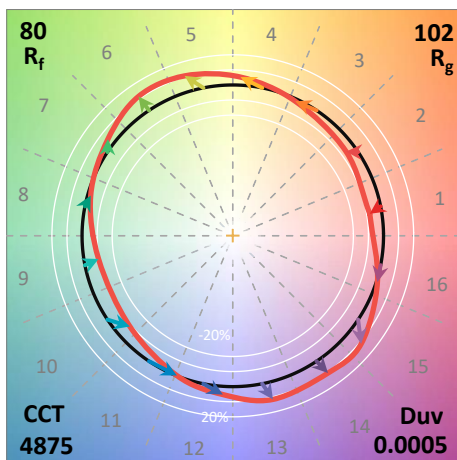
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	89	NR	620	280	NR	750	6	NR	880	0	NR
365	0	NR	495	121	NR	625	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			

**Summary**

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



**Color Vector Graphics**

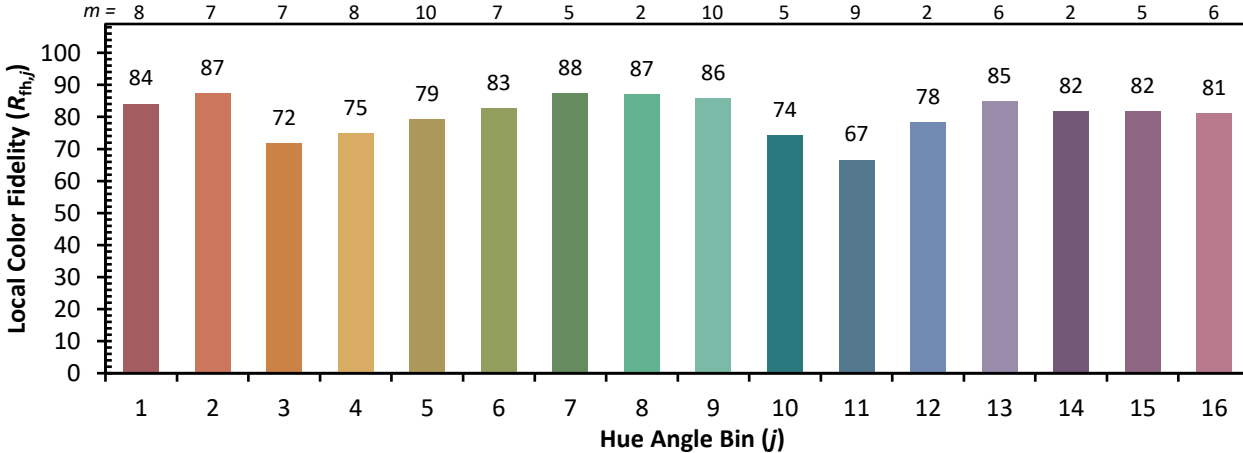


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)