

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: P1433709

Luminaire Tested: EHBR1-12-UNV-TASM-L940-UPL18

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: P1433709
REPORT IS A COMBINATION OF REPORTS P1431646 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-12-UNV-TASM-L940-UPL18
Description: Elevate Round Highbay at, 12000 lumens, 4000K 90CRI LEDs with TASM lens
Light Source: -
Ballast/Driver: -

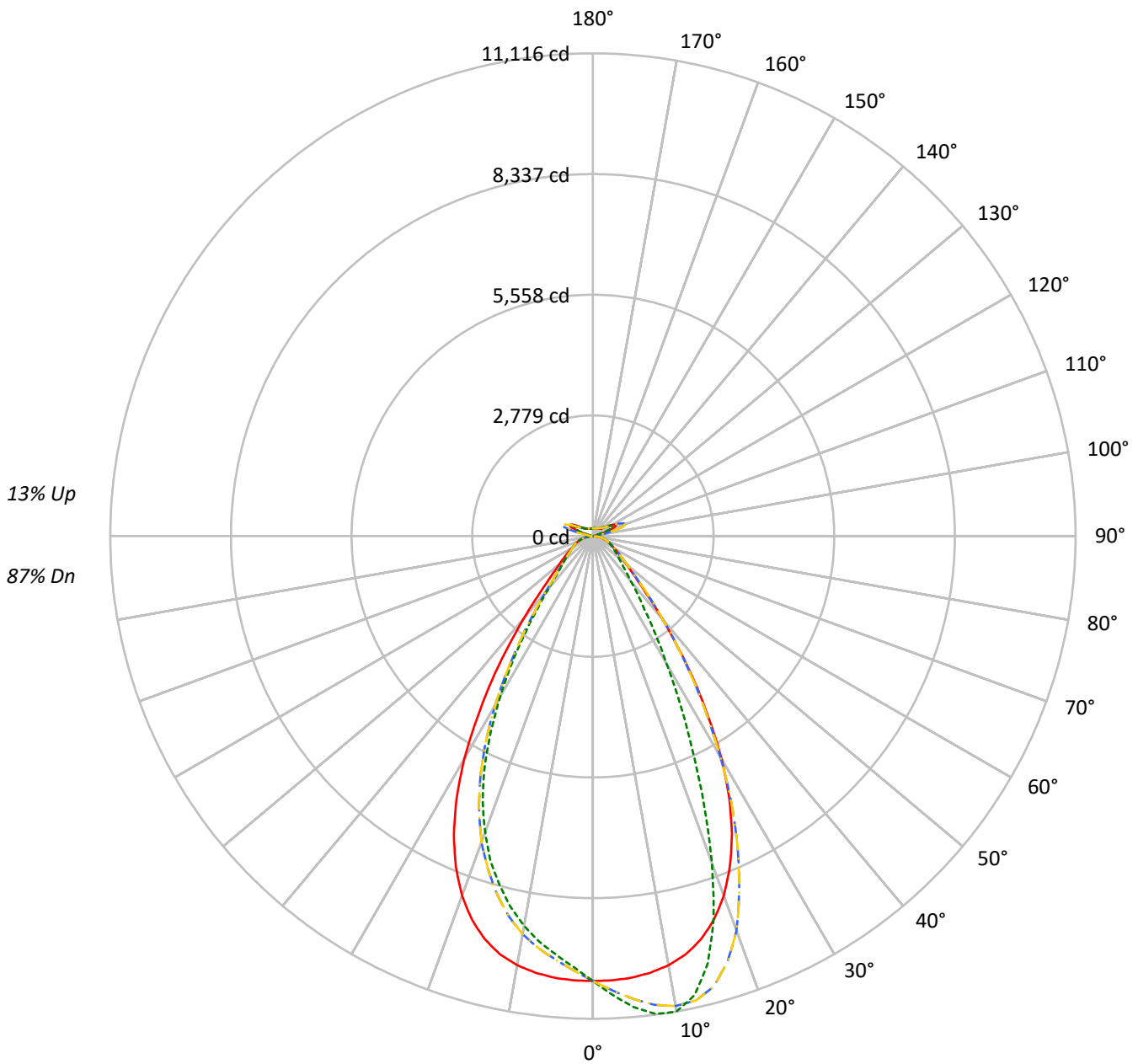
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13173.4 lumens
Efficiency: N/A
Efficacy: 172.0 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): 76.6
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: P1433709
CATALOG NUMBER: EHBR1-12-UNV-TASM-L940-UPL18

Luminous Intensity Polar Plot



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



TEST NUMBER: P1433709
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	0
RCR																					
0	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	90	90	90	87
1	109	105	102	99	105	102	99	96	95	93	91	89	87	86	84	82	81	81	81	81	78
2	102	96	91	86	98	93	88	84	87	84	80	82	79	77	78	75	73	73	73	73	71
3	95	87	81	76	92	85	79	75	80	76	72	76	72	69	72	69	67	67	67	67	64
4	89	80	74	68	86	78	72	67	74	69	65	70	66	63	67	64	61	61	61	61	59
5	84	74	67	62	81	72	66	61	69	63	59	66	61	58	63	59	56	56	56	56	54
6	79	68	62	57	76	67	60	56	64	58	54	61	57	53	59	55	52	52	52	52	50
7	74	64	57	52	72	62	56	51	60	54	50	57	53	49	55	51	48	48	48	48	46
8	70	59	53	48	68	58	52	47	56	50	46	54	49	46	52	48	45	45	45	45	43
9	66	56	49	45	65	55	48	44	53	47	43	51	46	42	49	45	42	42	42	42	40
10	63	52	46	41	61	51	45	41	50	44	40	48	43	40	46	42	39	39	39	39	37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	48108	48108	48108	48108
5°	47815	51010	47815	45333
10°	47227	52319	47227	42905
15°	45833	48621	45833	39633
20°	42865	38987	42865	35301
25°	37939	27013	37939	29584
30°	30805	17574	30805	22135
35°	22094	11381	22094	14736
40°	14285	7844	14285	9293
45°	9063	6077	9063	6621
50°	6731	5163	6731	5515
55°	5495	4704	5495	4868
60°	4758	4481	4758	4508
65°	4338	4321	4338	4303
70°	4111	4234	4111	4179
75°	3844	4095	3844	3973
80°	3378	3868	3378	3614
85°	2185	2761	2185	2633

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 12743 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	974.1	7.4
10°-20°	2650.0	20.1
20°-30°	3107.9	23.6
30°-40°	2161.4	16.4
40°-50°	1074.1	8.2
50°-60°	642.4	4.9
60°-70°	452.2	3.4
70°-80°	291.3	2.2
80°-90°	95.5	0.7
90°-100°	45.7	0.3
100°-110°	300.2	2.3
110°-120°	555.0	4.2
120°-130°	329.6	2.5
130°-140°	199.0	1.5
140°-150°	137.5	1.0
150°-160°	89.4	0.7
160°-170°	51.1	0.4
170°-180°	16.9	0.1
0°-30°	6732.0	51.1
0°-40°	8893.4	67.5
0°-60°	10609.9	80.5
0°-90°	11448.8	86.9
90°-120°	900.9	6.8
90°-150°	1567.1	11.9
90°-180°	1725.0	13.1
0°-180°	13173.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	10244	10244	10244	10244	10244	
5°	10209	10891	10209	9679	10209	969
15°	9616	10200	9616	8315	9616	2687
25°	7576	5394	7576	5908	7576	3430
35°	4055	2089	4055	2704	4055	2531
45°	1466	983	1466	1071	1466	1200
55°	743	636	743	658	743	679
65°	453	451	453	449	453	455
75°	271	288	271	280	271	284
85°	75	95	75	90	75	84
90°	13	14	13	13	13	9
95°	24	22	24	21	24	26
105°	138	70	138	104	138	186
115°	591	504	591	480	591	538
125°	378	395	378	346	378	348
135°	238	275	238	253	238	189
145°	215	225	215	209	215	135
155°	191	199	191	185	191	89
165°	179	184	179	175	179	51
175°	178	180	178	175	178	17
180°	177	177	177	177	177	



TEST NUMBER: P1433709
 CATALOG NUMBER: EHBR1-12-UNV-TASM-L940-UPL18

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	10244.2	10244.2	10244.2	10244.2	10244.2	10244.2	10244.2	10244.2	10244.2	10244.2	10244.2
2.5°	10238.2	10370.6	10477.8	10548.5	10583.4	10548.5	10477.8	10370.6	10238.2	10106.7	10016.2
5°	10209.3	10474.3	10698.9	10845.9	10891.4	10845.9	10698.9	10474.3	10209.3	9958.7	9792.6
7.5°	10139.9	10552.9	10886.6	11058.1	11100.0	11058.1	10886.6	10552.9	10139.9	9785.3	9575.4
10°	10034.0	10602.5	10988.0	11110.9	11115.9	11110.9	10988.0	10602.5	10034.0	9556.4	9308.7
12.5°	9865.2	10584.8	10954.0	10913.7	10822.0	10913.7	10954.0	10584.8	9865.2	9276.6	8964.3
15°	9615.5	10480.1	10738.6	10410.4	10200.4	10410.4	10738.6	10480.1	9615.5	8899.0	8536.7
17.5°	9263.5	10284.2	10289.2	9639.6	9243.6	9639.6	10289.2	10284.2	9263.5	8437.2	8038.2
20°	8810.0	9969.9	9670.2	8482.4	8013.0	8482.4	9670.2	9969.9	8810.0	7891.2	7499.8
22.5°	8241.4	9546.1	8808.3	7318.1	6677.8	7318.1	8808.3	9546.1	8241.4	7256.4	6848.9
25°	7576.4	9026.9	7881.1	6049.5	5394.4	6049.5	7881.1	9026.9	7576.4	6499.9	6131.4
27.5°	6794.2	8368.8	6893.7	4943.4	4339.0	4943.4	6893.7	8368.8	6794.2	5718.8	5342.5
30°	5925.4	7525.1	5866.2	3936.8	3380.3	3936.8	5866.2	7525.1	5925.4	4841.4	4504.4
32.5°	4952.5	6698.2	4879.4	3154.4	2683.0	3154.4	4879.4	6698.2	4952.5	4004.0	3651.9
35°	4055.1	5663.6	3989.6	2478.6	2088.8	2478.6	3989.6	5663.6	4055.1	3213.5	2867.8
37.5°	3182.4	4686.0	3180.4	1995.9	1694.3	1995.9	3180.4	4686.0	3182.4	2498.4	2217.7
40°	2475.9	3664.0	2491.9	1593.2	1359.6	1593.2	2491.9	3664.0	2475.9	1900.9	1721.4
42.5°	1876.0	2801.7	1958.6	1307.6	1154.9	1307.6	1958.6	2801.7	1876.0	1497.8	1363.3
45°	1466.4	2061.7	1529.5	1103.2	983.2	1103.2	1529.5	2061.7	1466.4	1206.2	1115.8
47.5°	1194.3	1593.4	1239.6	946.3	862.1	946.3	1239.6	1593.4	1194.3	1020.2	952.6
50°	1003.1	1222.7	1029.3	826.0	769.5	826.0	1029.3	1222.7	1003.1	873.6	828.5
52.5°	861.8	997.1	876.5	736.1	698.1	736.1	876.5	997.1	861.8	764.3	736.3
55°	742.6	838.3	762.3	661.9	635.7	661.9	762.3	838.3	742.6	680.2	659.4
57.5°	652.2	711.1	661.9	598.8	581.3	598.8	661.9	711.1	652.2	605.3	594.1
60°	572.0	615.8	584.1	543.6	538.7	543.6	584.1	615.8	572.0	544.5	537.3
62.5°	510.4	538.0	516.5	494.1	489.7	494.1	516.5	538.0	510.4	489.3	490.6
65°	452.8	478.5	461.6	449.5	451.0	449.5	461.6	478.5	452.8	443.0	445.0
67.5°	408.2	421.7	414.3	407.4	409.2	407.4	414.3	421.7	408.2	398.6	401.8
70°	360.7	375.2	367.6	368.7	371.5	368.7	367.6	375.2	360.7	357.8	360.4
72.5°	315.5	326.5	324.0	326.4	329.4	326.4	324.0	326.5	315.5	315.0	315.3
75°	270.8	279.3	280.4	283.7	288.5	283.7	280.4	279.3	270.8	267.9	271.4
77.5°	222.3	231.9	235.5	239.9	247.1	239.9	235.5	231.9	222.3	224.2	225.9
80°	177.7	182.1	190.1	193.4	203.5	193.4	190.1	182.1	177.7	174.4	176.9
82.5°	130.1	134.1	141.0	147.1	152.9	147.1	141.0	134.1	130.1	128.5	128.7
85°	75.1	81.2	85.9	93.2	94.9	93.2	85.9	81.2	75.1	76.9	75.1
87.5°	26.3	28.2	32.2	35.1	35.3	35.1	32.2	28.2	26.3	26.9	24.4
90°	12.6	21.3	36.8	20.2	13.9	20.2	36.8	21.3	12.6	22.2	34.6
92.5°	16.4	29.0	52.1	26.9	18.6	26.9	52.1	29.0	16.4	28.8	55.5
95°	24.2	35.7	66.4	29.7	22.5	29.7	66.4	35.7	24.2	38.4	77.5
97.5°	37.6	44.3	75.0	31.7	27.3	31.7	75.0	44.3	37.6	47.0	89.0
100°	50.0	50.0	137.1	36.4	31.1	36.4	137.1	50.0	50.0	57.7	138.6
102.5°	75.8	97.9	317.8	72.9	37.7	72.9	317.8	97.9	75.8	108.3	294.3
105°	137.9	224.0	559.4	188.5	69.6	188.5	559.4	224.0	137.9	226.7	524.4
107.5°	261.0	417.8	720.7	371.8	162.2	371.8	720.7	417.8	261.0	401.4	691.7
110°	417.7	584.0	786.6	509.3	328.3	509.3	786.6	584.0	417.7	551.3	725.1



TEST NUMBER: P1433709

CATALOG NUMBER: EHBR1-12-UNV-TASM-L940-UPL18

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	543.7	650.8	768.4	564.7	454.4	564.7	768.4	650.8	543.7	608.6	694.5
115°	590.7	641.3	686.3	562.8	504.0	562.8	686.3	641.3	590.7	594.3	620.1
117.5°	570.6	586.8	592.8	528.4	506.9	528.4	592.8	586.8	570.6	534.3	526.5
120°	515.2	508.6	499.4	477.7	478.2	477.7	499.4	508.6	515.2	466.6	439.6
122.5°	445.7	431.4	422.0	426.4	439.1	426.4	422.0	431.4	445.7	397.0	376.8
125°	377.9	363.6	367.8	382.4	395.4	382.4	367.8	363.6	377.9	337.1	332.0
127.5°	320.8	314.2	328.6	345.3	356.2	345.3	328.6	314.2	320.8	295.1	300.5
130°	280.0	281.6	300.9	315.0	321.8	315.0	300.9	281.6	280.0	267.6	280.7
132.5°	254.3	261.8	280.1	292.3	296.3	292.3	280.1	261.8	254.3	250.7	266.7
135°	238.3	249.4	266.0	273.9	275.2	273.9	266.0	249.4	238.3	239.5	254.3
137.5°	229.0	240.0	252.7	258.8	257.1	258.8	252.7	240.0	229.0	232.1	243.3
140°	223.5	234.5	240.2	247.4	245.9	247.4	240.2	234.5	223.5	225.4	234.0
142.5°	217.9	228.1	231.0	236.1	234.4	236.1	231.0	228.1	217.9	219.9	225.6
145°	215.3	222.8	220.6	227.5	225.0	227.5	220.6	222.8	215.3	216.0	219.1
147.5°	210.5	216.0	213.2	219.1	216.6	219.1	213.2	216.0	210.5	210.5	211.7
150°	205.0	208.8	204.8	211.7	211.0	211.7	204.8	208.8	205.0	204.0	205.1
152.5°	197.5	201.3	197.5	205.3	204.6	205.3	197.5	201.3	197.5	196.6	197.7
155°	191.2	193.1	191.2	199.0	199.2	199.0	191.2	193.1	191.2	191.0	191.4
157.5°	186.8	187.9	187.0	193.9	194.1	193.9	187.0	187.9	186.8	186.8	187.0
160°	182.8	184.7	183.9	189.8	190.1	189.8	183.9	184.7	182.8	183.5	183.7
162.5°	181.2	181.2	180.7	186.6	187.0	186.6	180.7	181.2	181.2	181.2	182.1
165°	179.0	180.0	178.4	182.6	183.9	182.6	178.4	180.0	179.0	179.8	179.8
167.5°	178.4	177.5	177.9	181.3	182.6	181.3	177.9	177.5	178.4	179.2	179.2
170°	176.7	176.9	176.3	179.7	181.0	179.7	176.3	176.9	176.7	177.7	178.4
172.5°	177.3	177.3	175.9	178.4	180.7	178.4	175.9	177.3	177.3	178.0	179.0
175°	177.7	176.8	176.3	177.9	180.2	177.9	176.3	176.8	177.7	177.5	177.5
177.5°	176.6	177.0	177.4	179.1	182.2	179.1	177.4	177.0	176.6	177.5	177.5
180°	177.0	177.0	177.0	177.0	177.0	177.0	177.0	177.0	177.0	177.0	177.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	10244.2	10244.2	10244.2	10244.2	10244.2	10244.2
2.5°	9946.6	9940.1	9946.6	10016.2	10106.7	10238.2
5°	9715.6	9679.4	9715.6	9792.6	9958.7	10209.3
7.5°	9446.4	9425.5	9446.4	9575.4	9785.3	10139.9
10°	9163.1	9115.7	9163.1	9308.7	9556.4	10034.0
12.5°	8813.8	8751.0	8813.8	8964.3	9276.6	9865.2
15°	8369.7	8314.7	8369.7	8536.7	8899.0	9615.5
17.5°	7893.2	7843.2	7893.2	8038.2	8437.2	9263.5
20°	7294.6	7255.4	7294.6	7499.8	7891.2	8810.0
22.5°	6666.7	6630.0	6666.7	6848.9	7256.4	8241.4
25°	5927.9	5907.8	5927.9	6131.4	6499.9	7576.4
27.5°	5129.5	5095.5	5129.5	5342.5	5718.8	6794.2
30°	4313.9	4257.6	4313.9	4504.4	4841.4	5925.4
32.5°	3516.1	3475.6	3516.1	3651.9	4004.0	4952.5
35°	2745.0	2704.5	2745.0	2867.8	3213.5	4055.1
37.5°	2139.0	2067.3	2139.0	2217.7	2498.4	3182.4
40°	1622.3	1610.7	1622.3	1721.4	1900.9	2475.9
42.5°	1320.6	1289.3	1320.6	1363.3	1497.8	1876.0
45°	1083.6	1071.3	1083.6	1115.8	1206.2	1466.4
47.5°	931.8	937.2	931.8	952.6	1020.2	1194.3
50°	818.7	822.0	818.7	828.5	873.6	1003.1
52.5°	735.3	732.5	735.3	736.3	764.3	861.8
55°	661.6	657.9	661.6	659.4	680.2	742.6
57.5°	597.0	599.7	597.0	594.1	605.3	652.2
60°	539.4	541.9	539.4	537.3	544.5	572.0
62.5°	490.8	492.4	490.8	490.6	489.3	510.4
65°	447.4	449.1	447.4	445.0	443.0	452.8
67.5°	405.9	405.9	405.9	401.8	398.6	408.2
70°	366.9	366.7	366.9	360.4	357.8	360.7
72.5°	320.0	324.7	320.0	315.3	315.0	315.5
75°	274.5	279.9	274.5	271.4	267.9	270.8
77.5°	228.4	236.6	228.4	225.9	224.2	222.3
80°	181.1	190.1	181.1	176.9	174.4	177.7
82.5°	133.9	140.6	133.9	128.7	128.5	130.1
85°	79.7	90.5	79.7	75.1	76.9	75.1
87.5°	25.5	32.7	25.5	24.4	26.9	26.3
90°	20.2	12.6	20.2	34.6	22.2	12.6
92.5°	30.7	18.4	30.7	55.5	28.8	16.4
95°	35.5	21.1	35.5	77.5	38.4	24.2
97.5°	39.3	27.1	39.3	89.0	47.0	37.6
100°	46.0	35.7	46.0	138.6	57.7	50.0
102.5°	97.5	60.6	97.5	294.3	108.3	75.8
105°	205.5	104.4	205.5	524.4	226.7	137.9
107.5°	367.8	180.8	367.8	691.7	401.4	261.0
110°	488.1	337.4	488.1	725.1	551.3	417.7



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	524.4	455.9	524.4	694.5	608.6	543.7
115°	504.4	479.7	504.4	620.1	594.3	590.7
117.5°	460.4	463.5	460.4	526.5	534.3	570.6
120°	409.8	429.1	409.8	439.6	466.6	515.2
122.5°	363.2	386.2	363.2	376.8	397.0	445.7
125°	323.1	346.2	323.1	332.0	337.1	377.9
127.5°	295.4	310.9	295.4	300.5	295.1	320.8
130°	273.6	287.0	273.6	280.7	267.6	280.0
132.5°	258.5	267.2	258.5	266.7	250.7	254.3
135°	245.4	252.8	245.4	254.3	239.5	238.3
137.5°	234.1	240.6	234.1	243.3	232.1	229.0
140°	224.0	229.6	224.0	234.0	225.4	223.5
142.5°	213.7	217.5	213.7	225.6	219.9	217.9
145°	206.5	209.3	206.5	219.1	216.0	215.3
147.5°	200.2	202.1	200.2	211.7	210.5	210.5
150°	193.9	195.7	193.9	205.1	204.0	205.0
152.5°	187.4	189.5	187.4	197.7	196.6	197.5
155°	183.0	185.0	183.0	191.4	191.0	191.2
157.5°	180.5	181.8	180.5	187.0	186.8	186.8
160°	178.1	179.3	178.1	183.7	183.5	182.8
162.5°	175.8	176.9	175.8	182.1	181.2	181.2
165°	175.1	175.3	175.1	179.8	179.8	179.0
167.5°	174.4	175.3	174.4	179.2	179.2	178.4
170°	174.6	174.8	174.6	178.4	177.7	176.7
172.5°	175.0	175.1	175.0	179.0	178.0	177.3
175°	174.4	174.6	174.4	177.5	177.5	177.7
177.5°	175.5	175.7	175.5	177.5	177.5	176.6
180°	177.0	177.0	177.0	177.0	177.0	177.0



TEST NUMBER: P1433709
 CATALOG NUMBER: EHBR1-12-UNV-TASM-L940-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	13.59	14.61	14.17	15.18	15.81	12.91	13.93	13.49	14.50	15.13
	3H	15.13	16.04	15.73	16.62	17.29	14.75	15.66	15.35	16.24	16.91
	4H	15.76	16.62	16.38	17.21	17.90	15.53	16.38	16.15	16.97	17.66
	6H	16.24	17.03	16.87	17.63	18.33	16.17	16.95	16.80	17.56	18.26
	8H	16.39	17.13	17.03	17.76	18.46	16.39	17.13	17.03	17.76	18.46
	12H	16.46	17.17	17.11	17.79	18.52	16.51	17.22	17.16	17.84	18.57
4H	2H	14.00	14.85	14.62	15.44	16.13	13.47	14.33	14.09	14.92	15.61
	3H	15.79	16.49	16.42	17.13	17.83	15.53	16.23	16.16	16.87	17.57
	4H	16.56	17.20	17.21	17.84	18.58	16.43	17.07	17.08	17.71	18.45
	6H	17.17	17.72	17.84	18.39	19.14	17.20	17.75	17.87	18.42	19.17
	8H	17.37	17.88	18.04	18.54	19.30	17.47	17.98	18.15	18.65	19.41
	12H	17.47	17.92	18.16	18.62	19.38	17.64	18.09	18.33	18.78	19.54
8H	4H	16.81	17.32	17.48	17.98	18.74	16.71	17.22	17.38	17.88	18.64
	6H	17.55	17.96	18.25	18.67	19.44	17.61	18.03	18.32	18.74	19.50
	8H	17.82	18.19	18.54	18.91	19.68	17.97	18.34	18.69	19.05	19.83
	12H	17.99	18.31	18.70	19.01	19.86	18.21	18.54	18.93	19.24	20.08
12H	4H	16.81	17.27	17.50	17.96	18.72	16.72	17.17	17.41	17.86	18.63
	6H	17.59	17.96	18.31	18.68	19.46	17.66	18.03	18.38	18.75	19.53
	8H	17.91	18.23	18.62	18.93	19.78	18.06	18.38	18.78	19.08	19.93

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-6

Test Date: 08/01/2025

Luminaire Tested: EHBR-60-L935-N

Data in this report applies to families of products including EHBR-60-L935-N

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-6
 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-L935-N**
 Description: Elevate Round Highbay at, 60000 lumens, 3500K 90CRI LEDs with N lens

Spectral Parameters

CCT (K): 3406
 CIE u': 0.2394
 CIE v': 0.5094
 Duv: -0.0028
 CIE x: 0.4076
 CIE y: 0.3856
 CIE z: 0.2068
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 582
 Purity: 38.0517
 Rf: 91.3
 Rg: 100

CRI (Ra):	94.6		
R1:	96.6	R9:	63.8
R2:	98.4	R10:	94.7
R3:	98.1	R11:	96.6
R4:	95.8	R12:	80.9
R5:	96.2	R13:	97.4
R6:	95.4	R14:	98.3
R7:	91.8	R15:	93.1
R8:	84.4		



Test Conditions

Stabilization Time: 35M
 Operation Time: 1H 35M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-6

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: SP1-2506-472-6

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: SP1-2506-472-6

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	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-6

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.62

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	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-6

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.3

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	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

Summary

$R_f = 91.3$
 $R_g = 100$
 $CIE R_a = 94.6$
 $R_9 = 63.8$



Color Vector Graphics



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

CES01 = 86	CES26 = 94	CES51 = 97	CES76 = 90
CES02 = 63	CES27 = 92	CES52 = 98	CES77 = 86
CES03 = 31	CES28 = 97	CES53 = 98	CES78 = 86
CES04 = 70	CES29 = 97	CES54 = 93	CES79 = 90
CES05 = 50	CES30 = 92	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 97	CES56 = 96	CES81 = 74
CES07 = 43	CES32 = 89	CES57 = 94	CES82 = 96
CES08 = 41	CES33 = 99	CES58 = 95	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 98	CES84 = 95
CES10 = 75	CES35 = 97	CES60 = 92	CES85 = 79
CES11 = 58	CES36 = 81	CES61 = 93	CES86 = 79
CES12 = 64	CES37 = 96	CES62 = 86	CES87 = 92
CES13 = 44	CES38 = 87	CES63 = 94	CES88 = 98
CES14 = 74	CES39 = 99	CES64 = 91	CES89 = 84
CES15 = 72	CES40 = 97	CES65 = 90	CES90 = 96
CES16 = 48	CES41 = 96	CES66 = 89	CES91 = 75
CES17 = 49	CES42 = 94	CES67 = 88	CES92 = 76
CES18 = 56	CES43 = 93	CES68 = 89	CES93 = 86
CES19 = 71	CES44 = 99	CES69 = 90	CES94 = 74
CES20 = 67	CES45 = 97	CES70 = 88	CES95 = 83
CES21 = 86	CES46 = 97	CES71 = 83	CES96 = 92
CES22 = 78	CES47 = 91	CES72 = 94	CES97 = 96
CES23 = 91	CES48 = 91	CES73 = 83	CES98 = 95
CES24 = 90	CES49 = 96	CES74 = 90	CES99 = 92
CES25 = 71	CES50 = 98	CES75 = 85	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)