

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: P295469

Luminaire Tested: **BMK-24-MFL-UNV-L850-CD-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P295469
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-24-MFL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM FROSTED LENS
Light Source: (528) 80 CRI 5000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24138.0 lumens
Efficiency: N/A
Efficacy: 155.2 lumens/watt
Spacing Criteria (0/90/45): 1.33 / 1.33 / 1.36
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

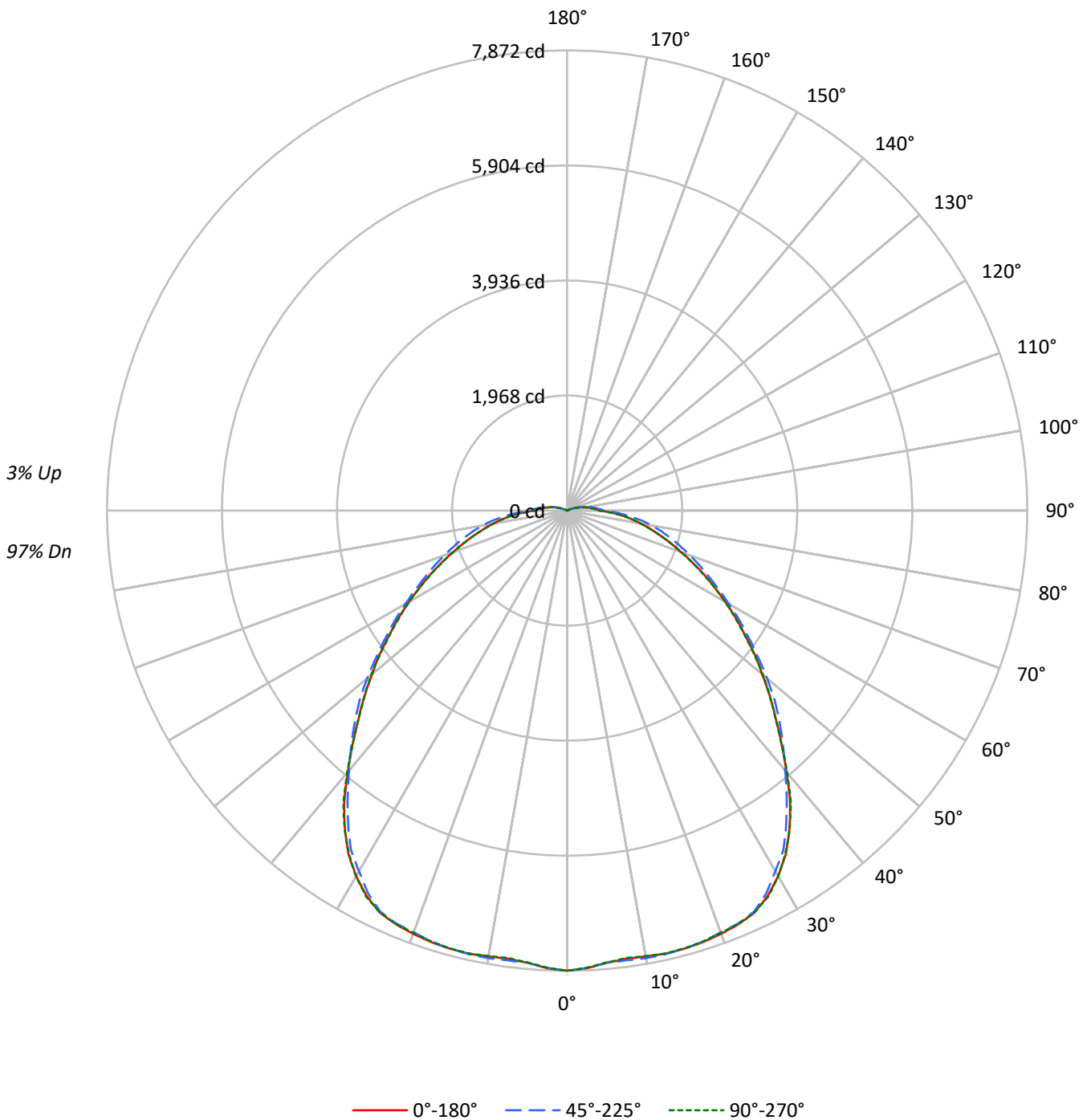
Input Watts (W): 155.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	97
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	79
2	97	89	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	65
3	89	78	69	63	86	76	68	62	72	66	60	69	64	59	66	62	58	55
4	81	69	60	53	79	67	59	53	64	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	60	52	45	58	50	45	56	49	44	53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	44	39	48	43	38	36
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	31	44	36	31	42	36	31	41	35	30	28
9	56	42	34	28	54	42	34	28	40	33	28	39	32	28	38	32	27	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	60684	60684	60684
5°	59449	59487	59442
10°	59360	59611	59329
15°	59994	59948	59955
20°	60561	60359	60460
25°	61121	60984	61104
30°	60107	59313	60166
35°	57584	56747	57671
40°	53365	53075	53557
45°	49202	50112	49144
50°	45725	46893	45944
55°	42632	43535	42519
60°	39892	40795	39854
65°	37478	38821	37262
70°	35162	37895	35128
75°	34023	37895	33981
80°	34000	38789	33920
85°	35069	39569	34956



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	741.2	3.1
10°-20°	2194.8	9.1
20°-30°	3471.4	14.4
30°-40°	4105.6	17.0
40°-50°	3946.5	16.3
50°-60°	3372.4	14.0
60°-70°	2616.6	10.8
70°-80°	1845.8	7.6
80°-90°	1068.6	4.4
90°-100°	501.8	2.1
100°-110°	231.0	1.0
110°-120°	41.6	0.2
120°-130°	0.6	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	6407.4	26.5
0°-40°	10513.0	43.6
0°-60°	17831.9	73.9
0°-90°	23362.9	96.8
90°-120°	774.5	3.2
90°-150°	775.1	3.2
90°-180°	775.0	3.2
0°-180°	24138.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7872	7872	7872	7872	7872	
5°	7762	7764	7767	7756	7762	741
15°	7758	7765	7752	7756	7752	2195
25°	7586	7567	7569	7566	7584	3481
35°	6630	6586	6534	6594	6640	4127
45°	5052	5120	5145	5108	5046	3912
55°	3713	3764	3791	3768	3703	3336
65°	2580	2637	2673	2632	2566	2559
75°	1651	1733	1839	1739	1649	1756
85°	937	972	1058	972	934	832
90°	549	601	629	599	547	318
95°	429	452	493	451	431	329
105°	210	213	229	214	209	223
115°	25	32	42	32	25	37
125°	0	0	0	0	0	1
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7871.8	7871.8	7871.8	7871.8	7871.8
2.5°	7834.0	7826.1	7829.0	7820.1	7826.1
5°	7762.4	7764.4	7767.4	7756.5	7761.5
7.5°	7731.6	7741.6	7759.5	7736.6	7718.7
10°	7742.6	7759.5	7775.4	7750.5	7738.6
12.5°	7763.4	7768.4	7774.4	7762.4	7761.5
15°	7757.5	7765.4	7751.5	7756.5	7752.5
17.5°	7738.6	7741.6	7731.6	7736.6	7730.6
20°	7702.8	7697.8	7677.0	7692.9	7689.9
22.5°	7660.1	7653.1	7647.1	7656.1	7651.1
25°	7585.5	7566.6	7568.6	7565.6	7583.5
27.5°	7430.4	7399.6	7378.7	7393.7	7445.3
30°	7217.7	7176.0	7122.3	7173.0	7224.7
32.5°	6965.2	6933.4	6884.7	6930.4	6952.3
35°	6630.2	6586.5	6533.8	6594.4	6640.2
37.5°	6265.4	6238.6	6170.0	6235.6	6284.3
40°	5834.0	5840.0	5802.2	5853.9	5854.9
42.5°	5432.4	5473.2	5470.2	5470.2	5432.4
45°	5051.7	5120.3	5145.1	5108.4	5045.7
47.5°	4705.8	4774.4	4817.1	4768.4	4702.8
50°	4354.9	4427.4	4466.2	4418.5	4375.8
52.5°	4044.7	4077.5	4115.3	4073.6	4027.8
55°	3712.7	3764.4	3791.3	3768.4	3702.8
57.5°	3423.5	3460.2	3492.1	3469.2	3403.6
60°	3122.3	3163.0	3192.9	3175.0	3119.3
62.5°	2842.0	2901.6	2923.5	2894.6	2835.0
65°	2580.5	2637.2	2673.0	2632.2	2565.6
67.5°	2320.1	2394.6	2451.3	2402.6	2312.1
70°	2071.6	2170.0	2232.6	2158.1	2069.6
72.5°	1860.8	1949.3	2029.8	1946.3	1852.9
75°	1651.1	1732.6	1839.0	1738.6	1649.1
77.5°	1461.2	1538.8	1655.1	1535.8	1452.3
80°	1284.3	1345.9	1465.2	1342.0	1281.3
82.5°	1111.3	1157.1	1273.4	1155.1	1107.4
85°	937.4	972.2	1057.7	972.2	934.4
87.5°	733.6	790.3	839.0	788.3	722.7
90°	548.7	601.4	629.2	599.4	546.7
92.5°	489.1	515.9	560.6	515.9	489.1
95°	429.4	452.3	493.0	451.3	431.4
97.5°	372.8	390.7	429.4	388.7	374.8
100°	321.1	330.0	365.8	332.0	319.1
102.5°	265.4	271.4	297.2	269.4	265.4
105°	209.7	212.7	228.6	213.7	208.7
107.5°	153.1	156.1	164.0	155.1	152.1
110°	101.4	103.4	113.3	103.4	102.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	58.6	63.6	73.6	63.6	58.6
115°	24.9	31.8	41.7	31.8	24.9
117.5°	8.0	12.9	15.9	12.9	7.0
120°	5.0	6.0	5.0	6.0	5.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)