

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: P295505

Luminaire Tested: **BMK-24-MCL-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: P295505
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-24-MCL-UNV-L850-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM CLEAR 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: 24753.0 lumens
Efficiency: N/A
Efficacy: 159.2 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.37 / 1.37
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

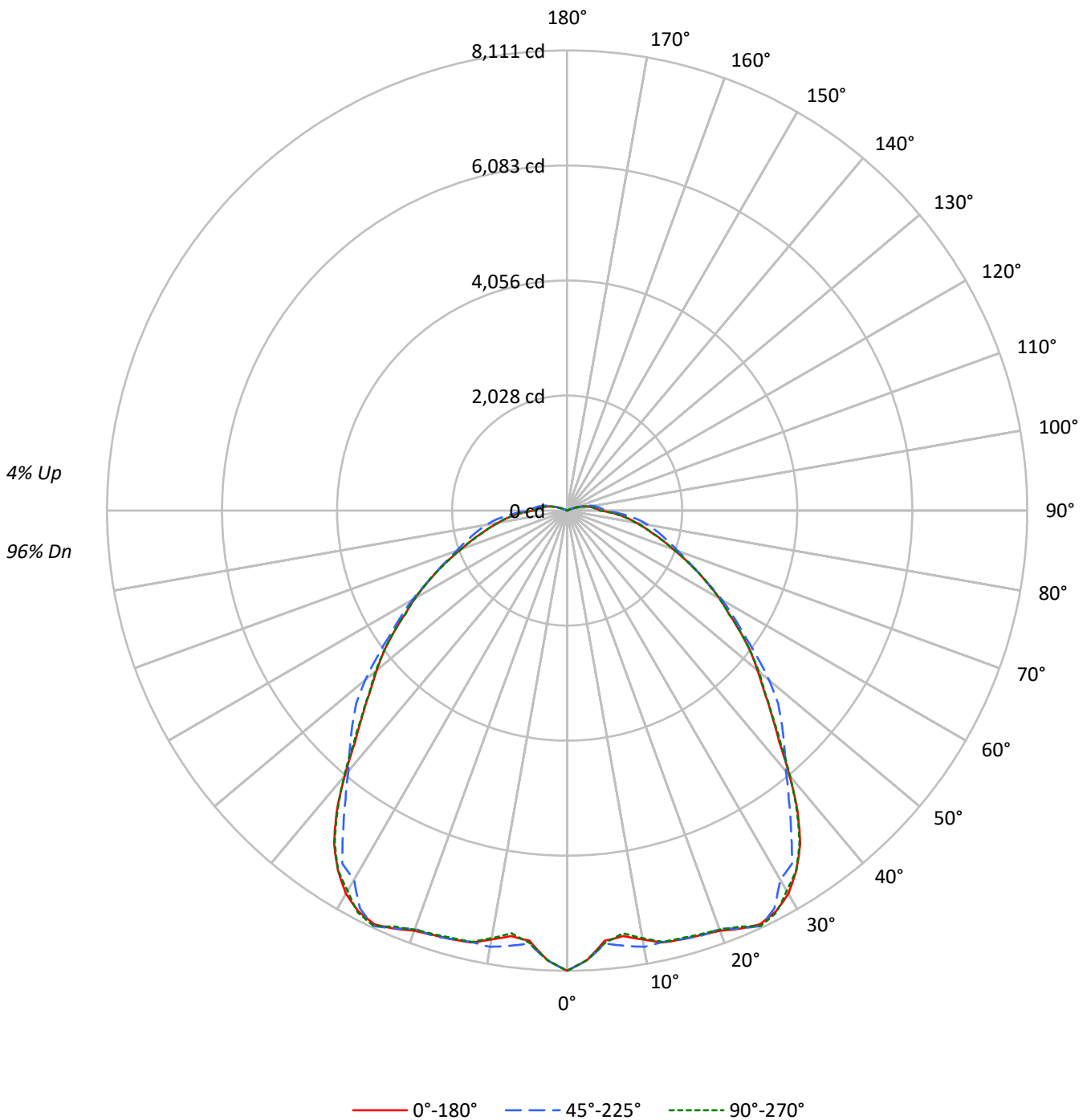
Input Watts (W): 155.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	96
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	79
2	97	89	82	76	94	87	80	75	82	77	72	79	74	70	75	71	68	66
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	55
4	81	69	61	54	79	68	60	53	65	58	52	62	56	51	59	54	50	48
5	75	62	53	46	73	61	52	46	58	51	45	56	49	44	54	48	44	41
6	69	56	47	41	67	55	46	40	53	45	40	51	44	39	49	43	38	36
7	64	51	42	36	62	50	42	36	48	41	35	46	40	35	45	39	34	32
8	60	46	38	32	58	46	37	32	44	37	31	42	36	31	41	35	31	29
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	62532	62532	62532
5°	58297	58670	58563
10°	58845	59866	58671
15°	60504	60481	60343
20°	61948	61650	61799
25°	64838	65110	65062
30°	64953	62556	64466
35°	62222	59756	62015
40°	55807	54881	55898
45°	49665	52159	49810
50°	45992	48775	46253
55°	42729	43641	42763
60°	39703	40313	39539
65°	36669	36769	36640
70°	33719	35169	33838
75°	32283	35945	32384
80°	32671	38373	32382
85°	35024	40448	34878



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	736.8	3.0
10°-20°	2221.1	9.0
20°-30°	3670.2	14.8
30°-40°	4368.2	17.6
40°-50°	4074.0	16.5
50°-60°	3395.0	13.7
60°-70°	2540.1	10.3
70°-80°	1763.6	7.1
80°-90°	1068.9	4.3
90°-100°	571.9	2.3
100°-110°	297.3	1.2
110°-120°	45.1	0.2
120°-130°	0.8	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°	6628.1	26.8
0°-40°	10996.3	44.4
0°-60°	18465.3	74.6
0°-90°	23837.9	96.3
90°-120°	914.4	3.7
90°-150°	915.1	3.7
90°-180°	915.0	3.7
0°-180°	24753.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8111	8111	8111	8111	8111	
5°	7612	7669	7661	7650	7647	732
15°	7824	7877	7820	7859	7803	2217
25°	8047	8043	8081	8058	8075	3682
35°	7164	7047	6880	7051	7140	4424
45°	5099	5280	5355	5289	5114	3967
55°	3721	3780	3800	3783	3724	3333
65°	2525	2554	2532	2553	2523	2503
75°	1567	1656	1744	1659	1572	1678
85°	936	963	1081	963	932	827
90°	592	631	662	626	583	342
95°	486	518	580	515	491	381
105°	273	278	311	275	275	286
115°	26	30	39	31	27	44
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°	8111.4	8111.4	8111.4	8111.4	8111.4
2.5°	7935.7	7942.6	7934.7	7913.8	7928.7
5°	7612.0	7668.6	7660.7	7649.7	7646.8
7.5°	7565.3	7650.7	7736.1	7642.8	7513.7
10°	7675.5	7760.9	7808.6	7754.0	7652.7
12.5°	7799.6	7795.7	7790.7	7786.7	7786.7
15°	7823.5	7877.1	7820.5	7859.2	7802.6
17.5°	7845.3	7884.0	7859.2	7878.1	7828.4
20°	7879.1	7918.8	7841.3	7899.9	7860.2
22.5°	7975.4	8004.2	7972.4	8001.2	7938.6
25°	8046.9	8042.9	8080.6	8057.8	8074.7
27.5°	7964.5	7939.6	7905.9	7897.9	7988.3
30°	7799.6	7666.6	7511.7	7637.8	7741.1
32.5°	7518.7	7525.6	7377.7	7534.6	7514.7
35°	7164.2	7047.1	6880.3	7051.1	7140.4
37.5°	6667.8	6579.5	6419.6	6578.5	6648.0
40°	6100.9	6115.8	5999.7	6112.8	6110.9
42.5°	5533.0	5679.0	5667.1	5655.1	5575.7
45°	5099.2	5279.9	5355.3	5288.8	5114.1
47.5°	4708.0	4960.2	5043.6	4962.1	4718.9
50°	4380.4	4547.1	4645.4	4546.2	4405.2
52.5°	4067.6	4126.2	4207.6	4144.1	4072.6
55°	3721.1	3779.7	3800.5	3782.7	3724.1
57.5°	3376.6	3468.9	3472.9	3462.0	3374.6
60°	3107.5	3145.3	3155.2	3158.2	3094.6
62.5°	2798.8	2850.4	2814.7	2850.4	2805.7
65°	2524.8	2553.6	2531.7	2552.6	2522.8
67.5°	2242.8	2322.2	2287.5	2318.3	2249.7
70°	1986.6	2087.9	2072.0	2089.9	1993.6
72.5°	1776.2	1865.5	1902.3	1858.6	1767.2
75°	1566.7	1656.0	1744.4	1659.0	1571.6
77.5°	1400.9	1468.4	1593.5	1474.3	1398.9
80°	1234.1	1296.6	1449.5	1291.7	1223.2
82.5°	1099.1	1127.9	1281.7	1133.8	1093.1
85°	936.2	963.0	1081.2	963.0	932.3
87.5°	769.4	789.3	867.7	799.2	758.5
90°	591.7	631.4	662.2	626.5	582.8
92.5°	541.1	569.9	623.5	564.9	537.1
95°	486.5	518.3	579.8	515.3	491.4
97.5°	445.8	461.7	522.2	460.7	442.8
100°	395.1	411.0	472.6	406.1	389.2
102.5°	336.6	345.5	402.1	348.5	337.6
105°	273.0	278.0	310.8	275.0	275.0
107.5°	203.5	200.6	211.5	197.6	202.5
110°	131.1	122.1	132.0	122.1	133.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	71.5	64.5	77.4	65.5	70.5
115°	25.8	29.8	38.7	30.8	26.8
117.5°	6.9	11.9	13.9	11.9	6.9
120°	6.0	6.9	6.0	6.9	6.0
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)