

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: P295493

Luminaire Tested: **BMK-15-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: P295493  
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-15-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: 15579.0 lumens  
Efficiency: N/A  
Efficacy: 166.1 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

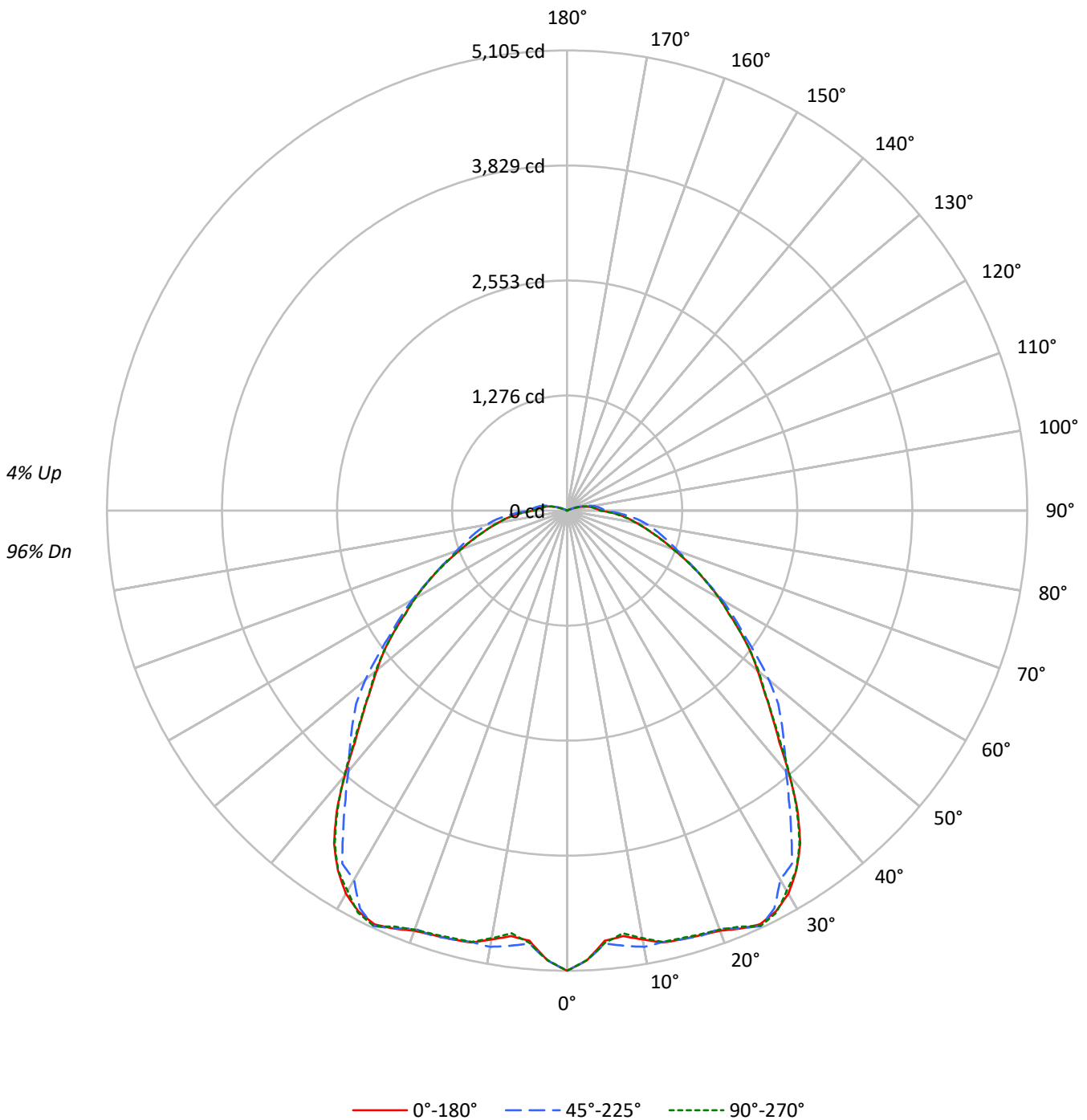
Input Watts (W): 93.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	39356	39356	39356
5°	36691	36925	36858
10°	37036	37679	36926
15°	38080	38066	37979
20°	38988	38802	38895
25°	40807	40979	40948
30°	40880	39371	40574
35°	39161	37609	39031
40°	35124	34541	35181
45°	31258	32828	31349
50°	28946	30698	29110
55°	26893	27467	26915
60°	24989	25372	24885
65°	23078	23142	23060
70°	21223	22135	21296
75°	20318	22623	20383
80°	20562	24152	20379
85°	22042	25458	21949



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	463.7	3.0
10°-20°	1397.9	9.0
20°-30°	2310.0	14.8
30°-40°	2749.3	17.6
40°-50°	2564.1	16.5
50°-60°	2136.7	13.7
60°-70°	1598.7	10.3
70°-80°	1110.0	7.1
80°-90°	672.7	4.3
90°-100°	360.0	2.3
100°-110°	187.1	1.2
110°-120°	28.4	0.2
120°-130°	0.5	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°	4171.6	26.8
0°-40°	6920.8	44.4
0°-60°	11621.7	74.6
0°-90°	15003.0	96.3
90°-120°	575.5	3.7
90°-150°	576.0	3.7
90°-180°	576.0	3.7
0°-180°	15579.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5105	5105	5105	5105	5105	
5°	4791	4826	4821	4815	4813	460
15°	4924	4958	4922	4946	4911	1395
25°	5064	5062	5086	5071	5082	2317
35°	4509	4435	4330	4438	4494	2784
45°	3209	3323	3370	3329	3219	2497
55°	2342	2379	2392	2381	2344	2098
65°	1589	1607	1593	1606	1588	1575
75°	986	1042	1098	1044	989	1056
85°	589	606	680	606	587	520
90°	372	397	417	394	367	215
95°	306	326	365	324	309	240
105°	172	175	196	173	173	180
115°	16	19	24	19	17	27
125°	0	0	0	0	0	0
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°	5105.1	5105.1	5105.1	5105.1	5105.1
2.5°	4994.5	4998.9	4993.9	4980.8	4990.2
5°	4790.8	4826.4	4821.4	4814.6	4812.7
7.5°	4761.5	4815.2	4868.9	4810.2	4729.0
10°	4830.8	4884.6	4914.6	4880.2	4816.4
12.5°	4908.9	4906.4	4903.3	4900.8	4900.8
15°	4923.9	4957.7	4922.1	4946.4	4910.8
17.5°	4937.7	4962.0	4946.4	4958.3	4927.1
20°	4958.9	4983.9	4935.2	4972.0	4947.0
22.5°	5019.5	5037.7	5017.7	5035.8	4996.4
25°	5064.5	5062.0	5085.8	5071.4	5082.0
27.5°	5012.7	4997.0	4975.8	4970.8	5027.7
30°	4908.9	4825.2	4727.7	4807.1	4872.1
32.5°	4732.1	4736.5	4643.4	4742.1	4729.6
35°	4509.0	4435.3	4330.3	4437.8	4494.0
37.5°	4196.6	4141.0	4040.4	4140.3	4184.1
40°	3839.8	3849.2	3776.1	3847.3	3846.0
42.5°	3482.4	3574.2	3566.7	3559.2	3509.2
45°	3209.3	3323.0	3370.5	3328.6	3218.7
47.5°	2963.1	3121.8	3174.3	3123.1	2970.0
50°	2756.9	2861.9	2923.7	2861.3	2772.5
52.5°	2560.1	2596.9	2648.2	2608.2	2563.2
55°	2342.0	2378.9	2392.0	2380.7	2343.9
57.5°	2125.2	2183.3	2185.8	2178.9	2123.9
60°	1955.8	1979.6	1985.8	1987.7	1947.7
62.5°	1761.5	1794.0	1771.5	1794.0	1765.9
65°	1589.0	1607.1	1593.4	1606.5	1587.8
67.5°	1411.6	1461.6	1439.7	1459.1	1415.9
70°	1250.4	1314.1	1304.1	1315.3	1254.7
72.5°	1117.9	1174.1	1197.2	1169.7	1112.3
75°	986.0	1042.3	1097.9	1044.1	989.2
77.5°	881.7	924.2	1002.9	927.9	880.4
80°	776.7	816.1	912.3	812.9	769.8
82.5°	691.7	709.8	806.7	713.6	688.0
85°	589.2	606.1	680.5	606.1	586.7
87.5°	484.3	496.8	546.1	503.0	477.4
90°	372.4	397.4	416.8	394.3	366.8
92.5°	340.6	358.7	392.4	355.5	338.1
95°	306.2	326.2	364.9	324.3	309.3
97.5°	280.6	290.6	328.7	289.9	278.7
100°	248.7	258.7	297.4	255.6	244.9
102.5°	211.8	217.5	253.1	219.3	212.5
105°	171.8	175.0	195.6	173.1	173.1
107.5°	128.1	126.2	133.1	124.3	127.5
110°	82.5	76.9	83.1	76.9	83.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	45.0	40.6	48.7	41.2	44.4
115°	16.2	18.7	24.4	19.4	16.9
117.5°	4.4	7.5	8.7	7.5	4.4
120°	3.7	4.4	3.7	4.4	3.7
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)