

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: P295491

Luminaire Tested: **BMK-15-MCL-UNV-L835-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: P295491  
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-L835-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH MEDIUM CLEAR LENS  
Light Source: (528) 80 CRI 3500K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15285.0 lumens  
Efficiency: N/A  
Efficacy: 163.0 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

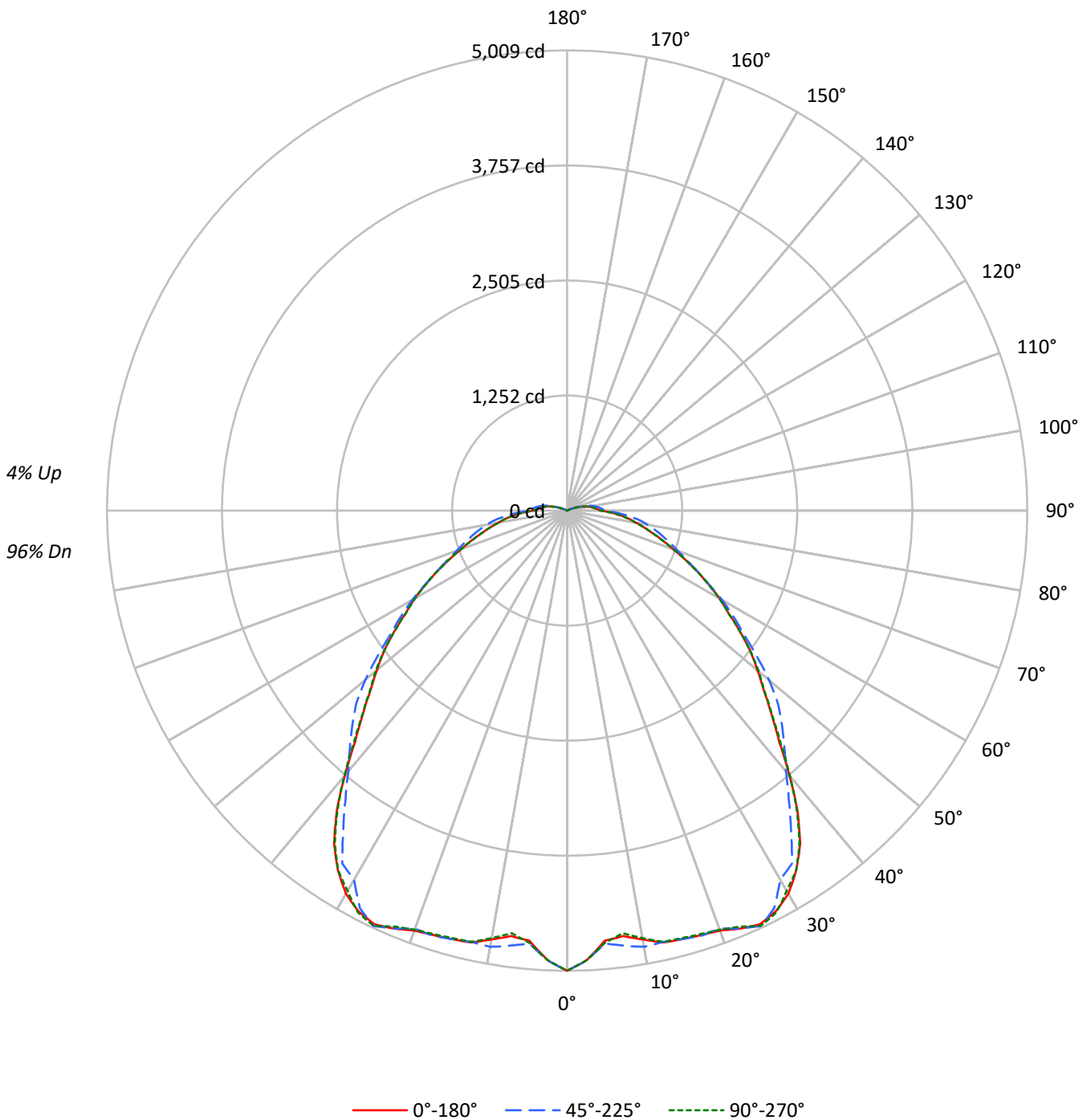
Input Watts (W): 93.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	38613	38613	38613
5°	35998	36229	36163
10°	36338	36967	36230
15°	37361	37348	37262
20°	38252	38069	38161
25°	40037	40206	40176
30°	40109	38628	39808
35°	38422	36900	38295
40°	34461	33889	34517
45°	30667	32208	30757
50°	28400	30119	28561
55°	26385	26948	26406
60°	24517	24893	24415
65°	22642	22705	22625
70°	20823	21717	20894
75°	19934	22197	19998
80°	20173	23696	19995
85°	21627	24975	21537



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	455.0	3.0
10°-20°	1371.5	9.0
20°-30°	2266.4	14.8
30°-40°	2697.4	17.6
40°-50°	2515.7	16.5
50°-60°	2096.4	13.7
60°-70°	1568.5	10.3
70°-80°	1089.0	7.1
80°-90°	660.0	4.3
90°-100°	353.2	2.3
100°-110°	183.6	1.2
110°-120°	27.9	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°	4092.8	26.8
0°-40°	6790.2	44.4
0°-60°	11402.3	74.6
0°-90°	14719.9	96.3
90°-120°	564.6	3.7
90°-150°	565.1	3.7
90°-180°	565.0	3.7
0°-180°	15285.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5009	5009	5009	5009	5009	
5°	4700	4735	4730	4724	4722	452
15°	4831	4864	4829	4853	4818	1369
25°	4969	4966	4990	4976	4986	2274
35°	4424	4352	4249	4354	4409	2732
45°	3149	3260	3307	3266	3158	2449
55°	2298	2334	2347	2336	2300	2058
65°	1559	1577	1563	1576	1558	1545
75°	967	1023	1077	1024	970	1036
85°	578	595	668	595	576	510
90°	365	390	409	387	360	211
95°	300	320	358	318	304	236
105°	169	172	192	170	170	176
115°	16	18	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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CATALOG NUMBER: BMK-15-MCL-UNV-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5008.8	5008.8	5008.8	5008.8	5008.8
2.5°	4900.3	4904.6	4899.7	4886.8	4896.0
5°	4700.4	4735.4	4730.5	4723.7	4721.9
7.5°	4671.6	4724.3	4777.1	4719.4	4639.7
10°	4739.7	4792.4	4821.8	4788.1	4725.6
12.5°	4816.3	4813.8	4810.8	4808.3	4808.3
15°	4831.0	4864.1	4829.2	4853.1	4818.1
17.5°	4844.5	4868.4	4853.1	4864.7	4834.1
20°	4865.3	4889.9	4842.0	4878.2	4853.7
22.5°	4924.8	4942.6	4923.0	4940.7	4902.1
25°	4968.9	4966.5	4989.8	4975.7	4986.1
27.5°	4918.1	4902.7	4881.9	4877.0	4932.8
30°	4816.3	4734.1	4638.5	4716.4	4780.1
32.5°	4642.8	4647.1	4555.7	4652.6	4640.3
35°	4423.9	4351.6	4248.6	4354.0	4409.2
37.5°	4117.4	4062.8	3964.1	4062.2	4105.1
40°	3767.3	3776.5	3704.8	3774.7	3773.5
42.5°	3416.6	3506.8	3499.4	3492.1	3443.0
45°	3148.7	3260.3	3306.9	3265.8	3157.9
47.5°	2907.2	3062.9	3114.4	3064.1	2913.9
50°	2704.9	2807.9	2868.6	2807.3	2720.2
52.5°	2511.8	2547.9	2598.2	2559.0	2514.8
55°	2297.8	2334.0	2346.8	2335.8	2299.6
57.5°	2085.1	2142.1	2144.5	2137.8	2083.8
60°	1918.9	1942.2	1948.3	1950.2	1910.9
62.5°	1728.2	1760.1	1738.1	1760.1	1732.5
65°	1559.0	1576.8	1563.3	1576.2	1557.8
67.5°	1384.9	1434.0	1412.5	1431.5	1389.2
70°	1226.8	1289.3	1279.5	1290.5	1231.0
72.5°	1096.8	1152.0	1174.6	1147.7	1091.3
75°	967.4	1022.6	1077.2	1024.4	970.5
77.5°	865.0	906.7	984.0	910.4	863.8
80°	762.0	800.7	895.1	797.6	755.3
82.5°	678.7	696.4	791.5	700.1	675.0
85°	578.1	594.7	667.6	594.7	575.7
87.5°	475.1	487.4	535.8	493.5	468.4
90°	365.4	389.9	408.9	386.8	359.9
92.5°	334.1	351.9	385.0	348.8	331.7
95°	300.4	320.0	358.0	318.2	303.5
97.5°	275.3	285.1	322.5	284.5	273.4
100°	244.0	253.8	291.8	250.7	240.3
102.5°	207.8	213.3	248.3	215.2	208.4
105°	168.6	171.7	191.9	169.8	169.8
107.5°	125.7	123.8	130.6	122.0	125.1
110°	80.9	75.4	81.5	75.4	82.2



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CATALOG NUMBER: BMK-15-MCL-UNV-L835-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	44.1	39.8	47.8	40.5	43.5
115°	15.9	18.4	23.9	19.0	16.6
117.5°	4.3	7.4	8.6	7.4	4.3
120°	3.7	4.3	3.7	4.3	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)