

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: P295499

Luminaire Tested: **BMK-18-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: P295499
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-18-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: 18637.0 lumens
Efficiency: N/A
Efficacy: 163.8 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

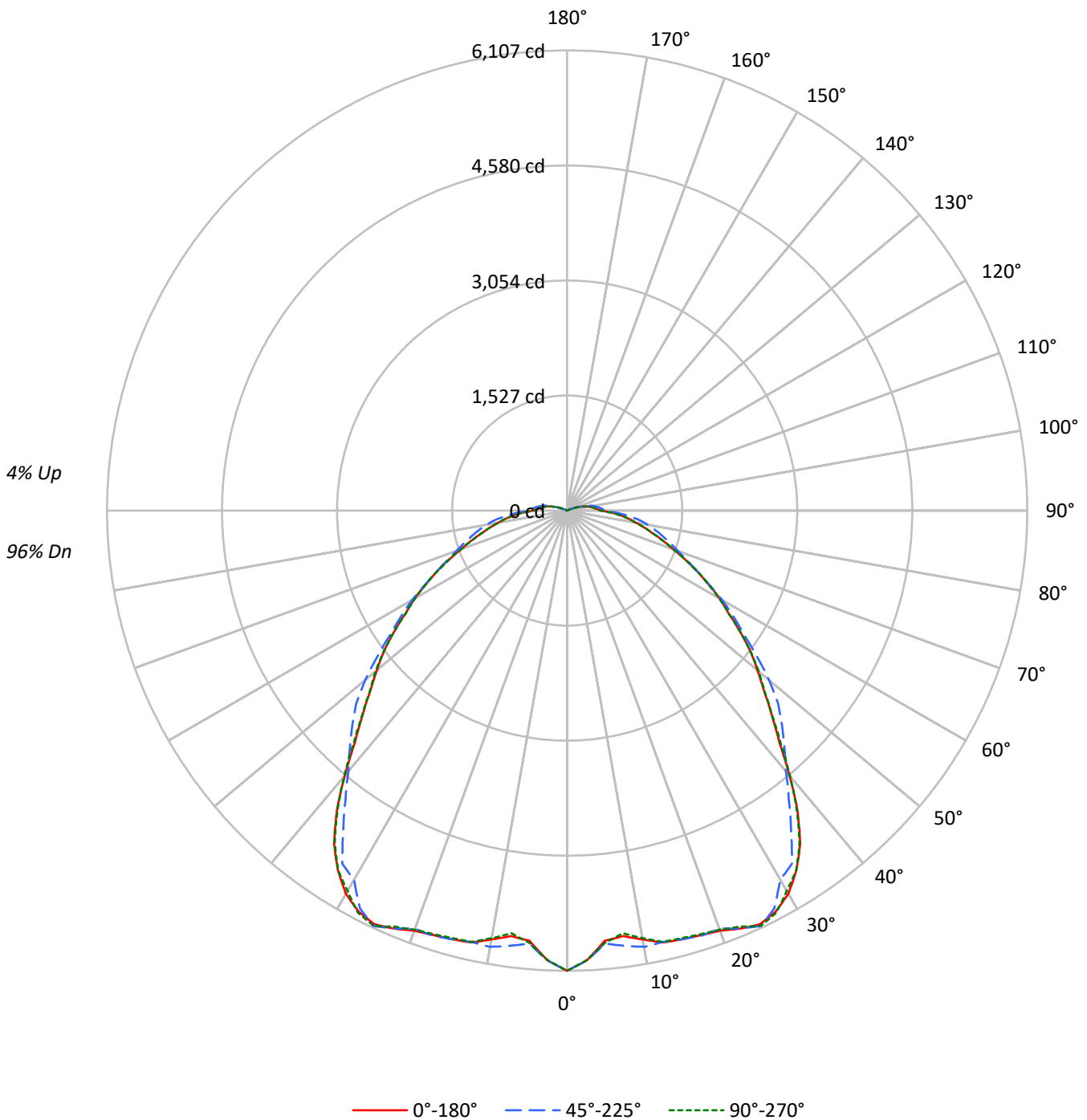
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	47081	47081	47081
5°	43893	44174	44093
10°	44306	45074	44174
15°	45554	45537	45433
20°	46641	46418	46530
25°	48817	49023	48987
30°	48905	47099	48538
35°	46849	44992	46693
40°	42018	41321	42087
45°	37394	39271	37503
50°	34629	36723	34824
55°	32172	32858	32197
60°	29893	30352	29770
65°	27608	27685	27586
70°	25389	26480	25477
75°	24307	27064	24383
80°	24599	28893	24379
85°	26371	30452	26258



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	554.7	3.0
10°-20°	1672.3	9.0
20°-30°	2763.4	14.8
30°-40°	3288.9	17.6
40°-50°	3067.4	16.5
50°-60°	2556.1	13.7
60°-70°	1912.5	10.3
70°-80°	1327.8	7.1
80°-90°	804.8	4.3
90°-100°	430.6	2.3
100°-110°	223.8	1.2
110°-120°	34.0	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°	4990.4	26.8
0°-40°	8279.3	44.4
0°-60°	13902.9	74.6
0°-90°	17948.0	96.3
90°-120°	688.4	3.7
90°-150°	689.0	3.7
90°-180°	689.0	3.7
0°-180°	18637.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6107	6107	6107	6107	6107	
5°	5731	5774	5768	5760	5757	551
15°	5890	5931	5888	5917	5875	1669
25°	6059	6056	6084	6067	6080	2772
35°	5394	5306	5180	5309	5376	3331
45°	3839	3975	4032	3982	3850	2987
55°	2802	2846	2862	2848	2804	2509
65°	1901	1923	1906	1922	1899	1884
75°	1180	1247	1313	1249	1183	1263
85°	705	725	814	725	702	622
90°	446	475	499	472	439	257
95°	366	390	437	388	370	287
105°	206	209	234	207	207	215
115°	19	22	29	23	20	33
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°	6107.2	6107.2	6107.2	6107.2	6107.2
2.5°	5974.9	5980.1	5974.2	5958.5	5969.7
5°	5731.2	5773.8	5767.9	5759.6	5757.4
7.5°	5696.1	5760.4	5824.7	5754.4	5657.2
10°	5779.1	5843.3	5879.2	5838.1	5761.9
12.5°	5872.5	5869.5	5865.8	5862.8	5862.8
15°	5890.4	5930.8	5888.2	5917.4	5874.7
17.5°	5906.9	5936.0	5917.4	5931.6	5894.2
20°	5932.3	5962.2	5903.9	5948.0	5918.1
22.5°	6004.8	6026.5	6002.6	6024.2	5977.2
25°	6058.6	6055.6	6084.1	6066.9	6079.6
27.5°	5996.6	5977.9	5952.5	5946.5	6014.5
30°	5872.5	5772.3	5655.7	5750.7	5828.4
32.5°	5661.0	5666.2	5554.8	5672.9	5658.0
35°	5394.1	5305.9	5180.3	5308.9	5376.2
37.5°	5020.3	4953.8	4833.5	4953.1	5005.4
40°	4593.5	4604.7	4517.3	4602.5	4601.0
42.5°	4165.9	4275.8	4266.8	4257.9	4198.1
45°	3839.3	3975.3	4032.1	3982.0	3850.5
47.5°	3544.7	3734.6	3797.4	3736.1	3553.0
50°	3298.1	3423.6	3497.6	3422.9	3316.7
52.5°	3062.6	3106.7	3168.0	3120.1	3066.3
55°	2801.7	2845.8	2861.5	2848.0	2803.9
57.5°	2542.3	2611.8	2614.8	2606.6	2540.8
60°	2339.7	2368.1	2375.6	2377.9	2330.0
62.5°	2107.3	2146.1	2119.2	2146.1	2112.5
65°	1900.9	1922.6	1906.2	1921.9	1899.4
67.5°	1688.6	1748.4	1722.3	1745.5	1693.9
70°	1495.8	1572.0	1560.1	1573.5	1501.0
72.5°	1337.3	1404.6	1432.2	1399.4	1330.6
75°	1179.6	1246.9	1313.4	1249.1	1183.3
77.5°	1054.7	1105.6	1199.8	1110.1	1053.3
80°	929.2	976.3	1091.4	972.5	920.9
82.5°	827.5	849.2	965.0	853.7	823.0
85°	704.9	725.1	814.0	725.1	701.9
87.5°	579.3	594.3	653.3	601.8	571.1
90°	445.5	475.4	498.6	471.7	438.8
92.5°	407.4	429.1	469.4	425.3	404.4
95°	366.3	390.2	436.6	388.0	370.0
97.5°	335.6	347.6	393.2	346.8	333.4
100°	297.5	309.5	355.8	305.7	293.0
102.5°	253.4	260.1	302.7	262.4	254.2
105°	205.6	209.3	234.0	207.1	207.1
107.5°	153.2	151.0	159.2	148.8	152.5
110°	98.7	91.9	99.4	91.9	100.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	53.8	48.6	58.3	49.3	53.1
115°	19.4	22.4	29.2	23.2	20.2
117.5°	5.2	9.0	10.5	9.0	5.2
120°	4.5	5.2	4.5	5.2	4.5
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)