

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: P295512

Luminaire Tested: **BMK-36-MCL-UNV-L735-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: P295512
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-36-MCL-UNV-L735-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM CLEAR LENS
Light Source: (528) 70 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 38385.0 lumens
Efficiency: N/A
Efficacy: 158.0 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

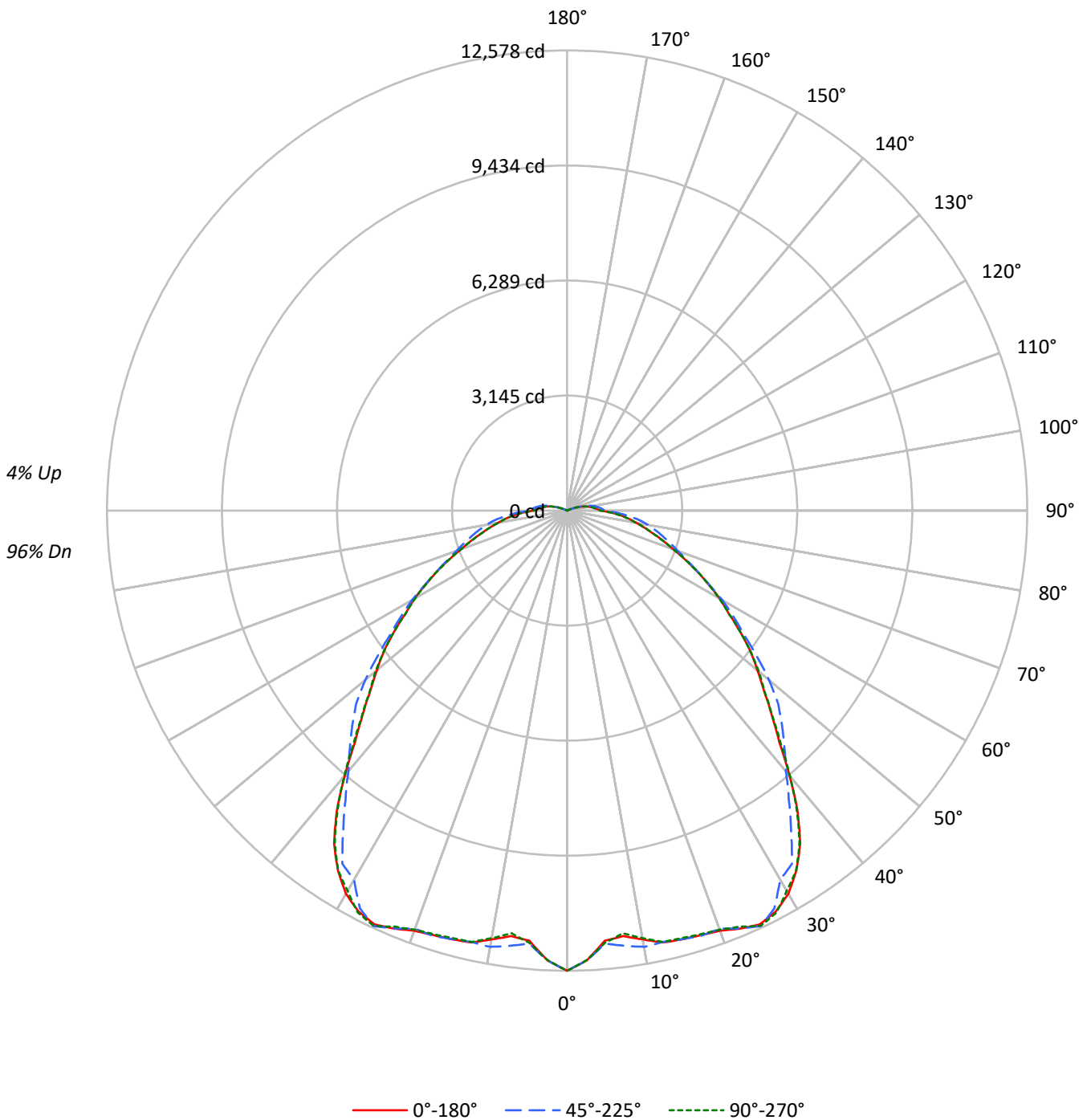
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	96969	96969	96969
5°	90402	90980	90815
10°	91253	92835	90982
15°	93825	93789	93575
20°	96063	95603	95833
25°	100545	100967	100893
30°	100725	97007	99968
35°	96489	92665	96169
40°	86541	85105	86682
45°	77016	80884	77241
50°	71321	75637	71725
55°	66261	67675	66314
60°	61569	62514	61314
65°	56862	57019	56817
70°	52290	54537	52473
75°	50062	55741	50221
80°	50662	59507	50215
85°	54313	62722	54084



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1142.5	3.0
10°-20°	3444.3	9.0
20°-30°	5691.5	14.8
30°-40°	6773.9	17.6
40°-50°	6317.7	16.5
50°-60°	5264.6	13.7
60°-70°	3939.0	10.3
70°-80°	2734.8	7.1
80°-90°	1657.6	4.3
90°-100°	886.9	2.3
100°-110°	461.0	1.2
110°-120°	70.0	0.2
120°-130°	1.2	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°	10278.3	26.8
0°-40°	17052.2	44.4
0°-60°	28634.5	74.6
0°-90°	36965.9	96.3
90°-120°	1417.9	3.7
90°-150°	1419.1	3.7
90°-180°	1419.0	3.7
0°-180°	38385.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	12578	12578	12578	12578	12578	
5°	11804	11892	11880	11863	11858	###
15°	12132	12215	12127	12188	12100	3437
25°	12478	12472	12531	12495	12522	5710
35°	11110	10928	10669	10934	11073	6860
45°	7907	8188	8305	8201	7930	6151
55°	5770	5861	5894	5866	5775	5168
65°	3915	3960	3926	3958	3912	3881
75°	2430	2568	2705	2573	2437	2601
85°	1452	1493	1677	1493	1446	1282
90°	918	979	1027	972	904	530
95°	754	804	899	799	762	592
105°	423	431	482	426	426	443
115°	40	46	60	48	42	68
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°	12578.5	12578.5	12578.5	12578.5	12578.5
2.5°	12306.0	12316.8	12304.5	12272.1	12295.2
5°	11804.1	11891.9	11879.5	11862.6	11858.0
7.5°	11731.7	11864.1	11996.5	11851.8	11651.7
10°	11902.6	12035.0	12108.9	12024.3	11867.2
12.5°	12095.1	12088.9	12081.2	12075.1	12075.1
15°	12132.0	12215.2	12127.4	12187.5	12099.7
17.5°	12165.9	12225.9	12187.5	12216.7	12139.7
20°	12218.2	12279.8	12159.7	12250.6	12189.0
22.5°	12367.6	12412.2	12363.0	12407.6	12310.6
25°	12478.4	12472.3	12530.8	12495.4	12521.5
27.5°	12350.7	12312.2	12259.8	12247.5	12387.6
30°	12095.1	11888.8	11648.6	11844.1	12004.2
32.5°	11659.4	11670.2	11440.8	11684.0	11653.2
35°	11109.7	10928.1	10669.4	10934.2	11072.8
37.5°	10339.9	10202.9	9955.0	10201.4	10309.1
40°	9460.8	9483.9	9303.8	9479.3	9476.2
42.5°	8580.2	8806.5	8788.0	8769.5	8646.4
45°	7907.4	8187.6	8304.6	8201.4	7930.5
47.5°	7300.8	7691.8	7821.2	7694.9	7317.7
50°	6792.7	7051.4	7203.8	7049.8	6831.2
52.5°	6307.7	6398.6	6524.8	6426.3	6315.4
55°	5770.4	5861.2	5893.6	5865.9	5775.0
57.5°	5236.2	5379.4	5385.5	5368.6	5233.1
60°	4818.9	4877.4	4892.8	4897.5	4798.9
62.5°	4340.1	4420.2	4364.8	4420.2	4350.9
65°	3915.2	3959.8	3926.0	3958.3	3912.1
67.5°	3478.0	3601.1	3547.2	3595.0	3488.7
70°	3080.7	3237.8	3213.1	3240.9	3091.5
72.5°	2754.3	2892.9	2949.9	2882.1	2740.5
75°	2429.5	2568.0	2705.1	2572.7	2437.2
77.5°	2172.4	2277.1	2471.1	2286.3	2169.3
80°	1913.7	2010.7	2247.8	2003.0	1896.8
82.5°	1704.3	1749.0	1987.6	1758.2	1695.1
85°	1451.8	1493.4	1676.6	1493.4	1445.7
87.5°	1193.2	1224.0	1345.6	1239.4	1176.3
90°	917.6	979.2	1026.9	971.5	903.7
92.5°	839.1	883.7	966.9	876.0	832.9
95°	754.4	803.7	899.1	799.1	762.1
97.5°	691.3	715.9	809.8	714.4	686.7
100°	612.8	637.4	732.8	629.7	603.5
102.5°	521.9	535.8	623.5	540.4	523.5
105°	423.4	431.1	481.9	426.5	426.5
107.5°	315.6	311.0	327.9	306.4	314.1
110°	203.2	189.4	204.8	189.4	206.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	110.9	100.1	120.1	101.6	109.3
115°	40.0	46.2	60.0	47.7	41.6
117.5°	10.8	18.5	21.6	18.5	10.8
120°	9.2	10.8	9.2	10.8	9.2
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)