

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: P295482

Luminaire Tested: **BMK-12-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: P295482
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-12-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: 12989.0 lumens
Efficiency: N/A
Efficacy: 174.8 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

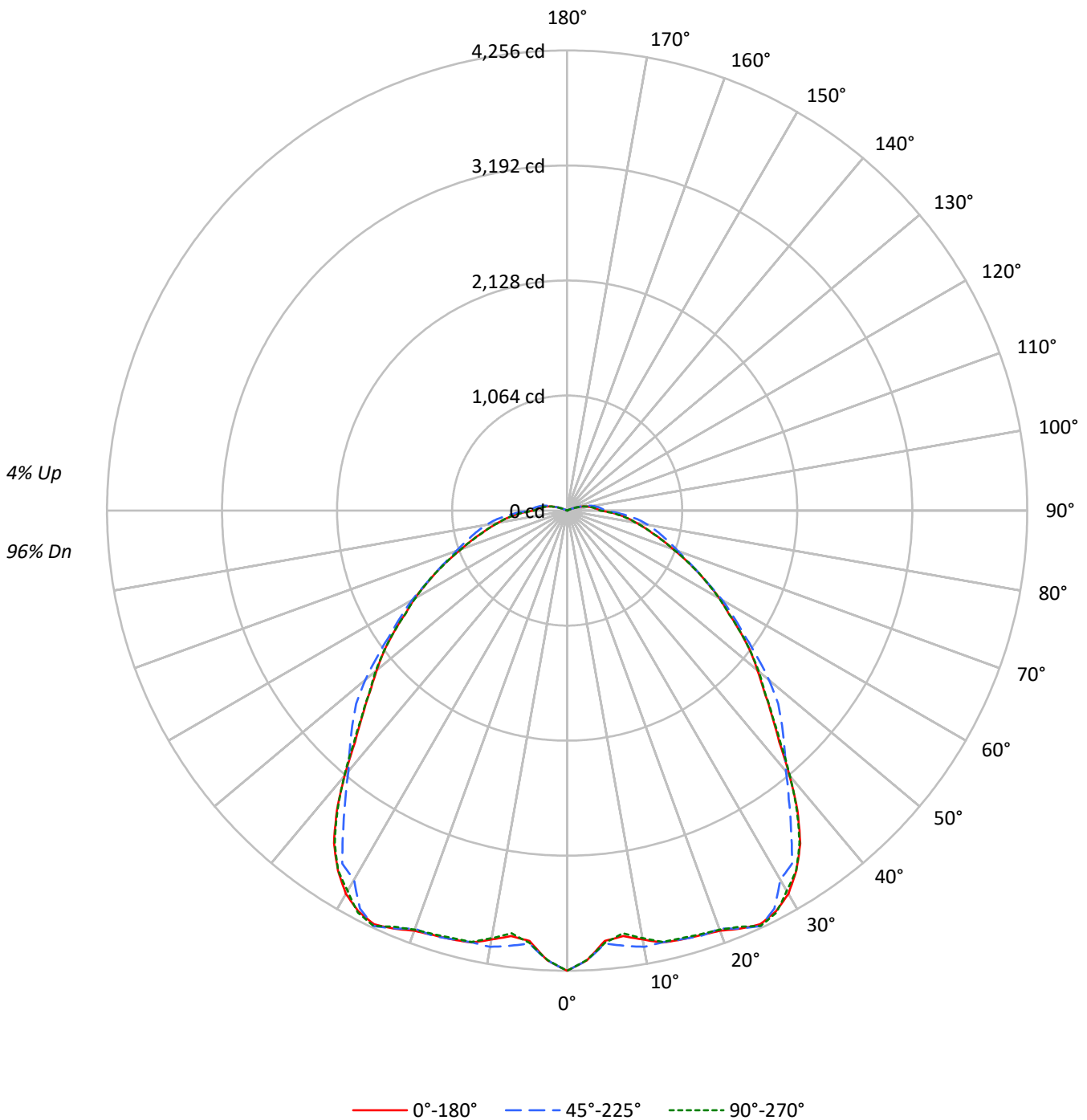
Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	32813	32813	32813
5°	30591	30787	30731
10°	30879	31414	30787
15°	31749	31737	31665
20°	32507	32351	32429
25°	34023	34166	34141
30°	34084	32826	33828
35°	32651	31357	32542
40°	29284	28798	29332
45°	26062	27371	26137
50°	24134	25595	24271
55°	22421	22900	22440
60°	20835	21154	20748
65°	19242	19294	19226
70°	17695	18455	17756
75°	16940	18863	16994
80°	17144	20136	16991
85°	18380	21223	18301



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	386.6	3.0
10°-20°	1165.5	9.0
20°-30°	1925.9	14.8
30°-40°	2292.2	17.6
40°-50°	2137.8	16.5
50°-60°	1781.5	13.7
60°-70°	1332.9	10.3
70°-80°	925.4	7.1
80°-90°	560.9	4.3
90°-100°	300.1	2.3
100°-110°	156.0	1.2
110°-120°	23.7	0.2
120°-130°	0.4	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°	3478.0	26.8
0°-40°	5770.3	44.4
0°-60°	9689.6	74.6
0°-90°	12508.8	96.3
90°-120°	479.8	3.7
90°-150°	480.2	3.7
90°-180°	480.0	3.7
0°-180°	12989.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4256	4256	4256	4256	4256	
5°	3994	4024	4020	4014	4013	384
15°	4105	4134	4104	4124	4094	1163
25°	4222	4220	4240	4228	4237	1932
35°	3759	3698	3610	3700	3747	2321
45°	2676	2771	2810	2775	2684	2082
55°	1953	1983	1994	1985	1954	1749
65°	1325	1340	1328	1339	1324	1313
75°	822	869	915	871	825	880
85°	491	505	567	505	489	434
90°	310	331	348	329	306	179
95°	255	272	304	270	258	200
105°	143	146	163	144	144	150
115°	14	16	20	16	14	23
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°	4256.4	4256.4	4256.4	4256.4	4256.4
2.5°	4164.2	4167.8	4163.7	4152.7	4160.6
5°	3994.4	4024.1	4019.9	4014.2	4012.6
7.5°	3969.9	4014.7	4059.5	4010.5	3942.8
10°	4027.7	4072.5	4097.5	4068.9	4015.7
12.5°	4092.8	4090.7	4088.1	4086.1	4086.1
15°	4105.3	4133.5	4103.8	4124.1	4094.4
17.5°	4116.8	4137.1	4124.1	4134.0	4107.9
20°	4134.5	4155.3	4114.7	4145.4	4124.6
22.5°	4185.0	4200.1	4183.5	4198.6	4165.8
25°	4222.5	4220.5	4240.3	4228.3	4237.1
27.5°	4179.3	4166.3	4148.6	4144.4	4191.8
30°	4092.8	4023.0	3941.7	4007.9	4062.1
32.5°	3945.4	3949.0	3871.4	3953.7	3943.3
35°	3759.4	3697.9	3610.4	3700.0	3746.9
37.5°	3498.9	3452.5	3368.7	3452.0	3488.5
40°	3201.4	3209.2	3148.3	3207.7	3206.6
42.5°	2903.4	2980.0	2973.8	2967.5	2925.8
45°	2675.8	2770.6	2810.2	2775.3	2683.6
47.5°	2470.5	2602.8	2646.6	2603.9	2476.2
50°	2298.6	2386.1	2437.7	2385.6	2311.6
52.5°	2134.5	2165.2	2207.9	2174.6	2137.1
55°	1952.6	1983.4	1994.3	1984.9	1954.2
57.5°	1771.9	1820.3	1822.4	1816.7	1770.8
60°	1630.7	1650.5	1655.7	1657.2	1623.9
62.5°	1468.6	1495.7	1477.0	1495.7	1472.3
65°	1324.9	1340.0	1328.5	1339.4	1323.8
67.5°	1176.9	1218.6	1200.3	1216.5	1180.5
70°	1042.5	1095.6	1087.3	1096.7	1046.1
72.5°	932.0	978.9	998.2	975.3	927.3
75°	822.1	869.0	915.4	870.6	824.7
77.5°	735.1	770.5	836.2	773.7	734.1
80°	647.6	680.4	760.6	677.8	641.8
82.5°	576.7	591.8	672.6	595.0	573.6
85°	491.3	505.4	567.3	505.4	489.2
87.5°	403.8	414.2	455.3	419.4	398.0
90°	310.5	331.3	347.5	328.7	305.8
92.5°	283.9	299.0	327.2	296.4	281.9
95°	255.3	272.0	304.3	270.4	257.9
97.5°	233.9	242.3	274.0	241.7	232.4
100°	207.4	215.7	248.0	213.1	204.2
102.5°	176.6	181.3	211.0	182.9	177.1
105°	143.3	145.9	163.1	144.3	144.3
107.5°	106.8	105.2	111.0	103.7	106.3
110°	68.8	64.1	69.3	64.1	69.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	37.5	33.9	40.6	34.4	37.0
115°	13.5	15.6	20.3	16.2	14.1
117.5°	3.6	6.3	7.3	6.3	3.6
120°	3.1	3.6	3.1	3.6	3.1
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)