

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: P295476

Luminaire Tested: **BMK-36-MFL-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: P295476
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-36-MFL-UNV-L735-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM FROSTED 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: 37432.0 lumens
Efficiency: N/A
Efficacy: 154.0 lumens/watt
Spacing Criteria (0/90/45): 1.33 / 1.33 / 1.36
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

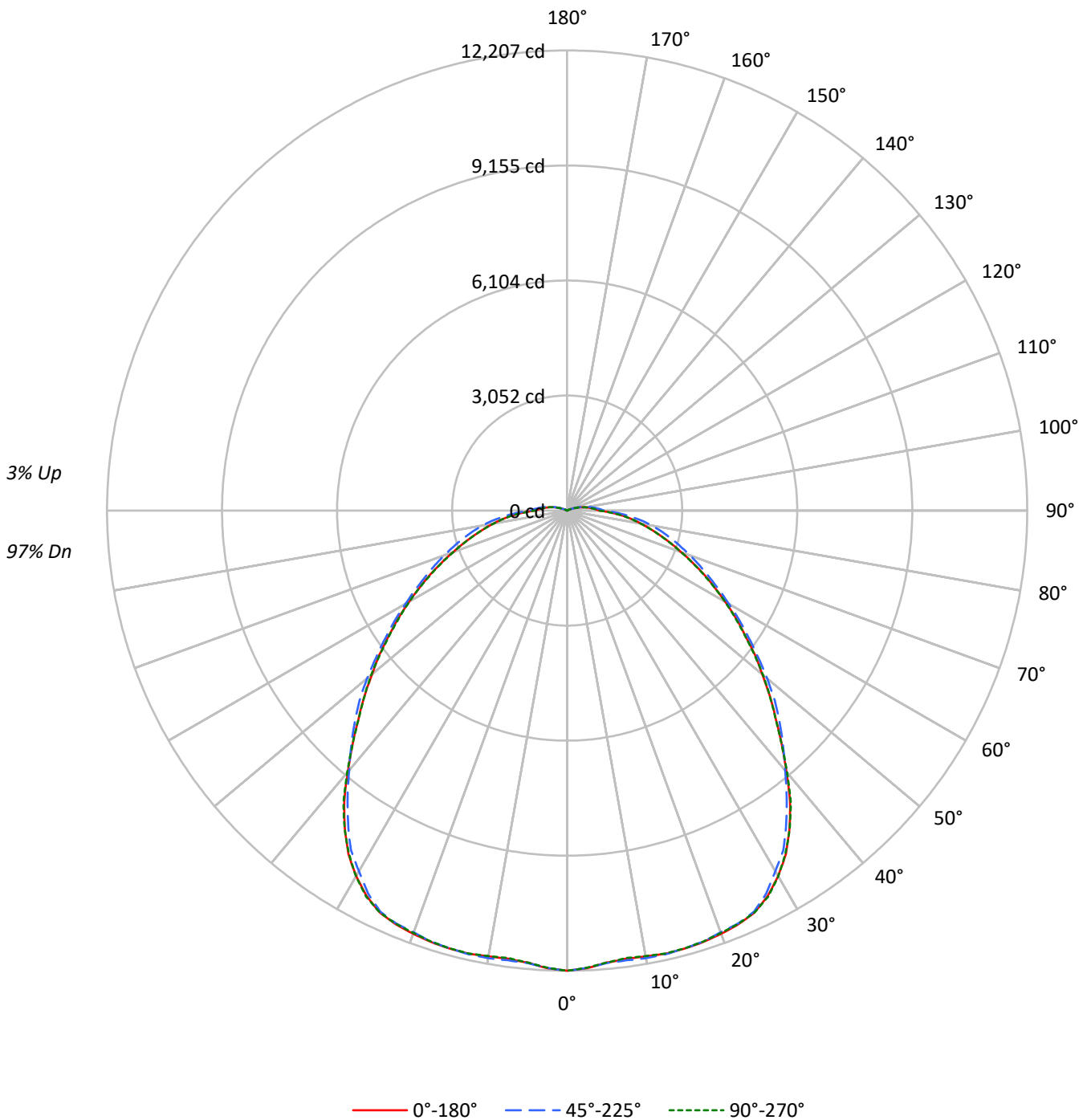
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	97
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	79
2	97	89	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	65
3	89	78	69	63	86	76	68	62	72	66	60	69	64	59	66	62	58	55
4	81	69	60	53	79	67	59	53	64	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	60	52	45	58	50	45	56	49	44	53	48	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	44	39	48	43	38	36
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	31	44	36	31	42	36	31	41	35	30	28
9	56	42	34	28	54	42	34	28	40	33	28	39	32	28	38	32	27	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	94106	94106	94106
5°	92191	92250	92179
10°	92052	92441	92004
15°	93035	92964	92976
20°	93915	93600	93758
25°	94783	94571	94758
30°	93212	91979	93302
35°	89299	88001	89434
40°	82757	82306	83053
45°	76300	77711	76210
50°	70907	72720	71247
55°	66113	67511	65936
60°	61863	63261	61803
65°	58119	60201	57783
70°	54527	58765	54474
75°	52760	58764	52698
80°	52724	60153	52603
85°	54380	61361	54208



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1149.4	3.1
10°-20°	3403.6	9.1
20°-30°	5383.3	14.4
30°-40°	6366.8	17.0
40°-50°	6120.0	16.3
50°-60°	5229.7	14.0
60°-70°	4057.8	10.8
70°-80°	2862.3	7.6
80°-90°	1657.1	4.4
90°-100°	778.2	2.1
100°-110°	358.3	1.0
110°-120°	64.5	0.2
120°-130°	1.0	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°	9936.2	26.5
0°-40°	16303.0	43.6
0°-60°	27652.8	73.9
0°-90°	36230.0	96.8
90°-120°	1201.0	3.2
90°-150°	1201.9	3.2
90°-180°	1202.0	3.2
0°-180°	37432.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	12207	12207	12207	12207	12207	
5°	12038	12041	12045	12028	12036	###
15°	12030	12042	12021	12028	12022	3404
25°	11763	11734	11737	11732	11760	5398
35°	10282	10214	10132	10226	10297	6400
45°	7834	7940	7979	7922	7825	6066
55°	5758	5838	5879	5844	5742	5173
65°	4002	4090	4145	4082	3979	3969
75°	2560	2687	2852	2696	2557	2723
85°	1454	1508	1640	1508	1449	1291
90°	851	933	976	930	848	493
95°	666	701	765	700	669	510
105°	325	330	354	331	324	346
115°	38	49	65	49	38	57
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°	12207.2	12207.2	12207.2	12207.2	12207.2
2.5°	12148.6	12136.3	12140.9	12127.0	12136.3
5°	12037.6	12040.7	12045.3	12028.4	12036.1
7.5°	11989.8	12005.2	12033.0	11997.5	11969.8
10°	12006.8	12033.0	12057.6	12019.1	12000.6
12.5°	12039.2	12046.9	12056.1	12037.6	12036.1
15°	12029.9	12042.2	12020.7	12028.4	12022.2
17.5°	12000.6	12005.2	11989.8	11997.5	11988.3
20°	11945.1	11937.4	11905.0	11929.7	11925.1
22.5°	11878.8	11868.0	11858.8	11872.7	11865.0
25°	11763.2	11733.9	11737.0	11732.4	11760.1
27.5°	11522.7	11475.0	11442.6	11465.7	11545.9
30°	11192.9	11128.1	11044.9	11123.5	11203.7
32.5°	10801.3	10752.0	10676.5	10747.4	10781.3
35°	10281.8	10214.0	10132.3	10226.3	10297.3
37.5°	9716.1	9674.5	9568.1	9669.9	9745.4
40°	9047.1	9056.3	8997.8	9077.9	9079.5
42.5°	8424.3	8487.5	8482.9	8482.9	8424.3
45°	7833.9	7940.3	7978.8	7921.8	7824.7
47.5°	7297.5	7403.8	7470.1	7394.6	7292.9
50°	6753.3	6865.9	6926.0	6852.0	6785.7
52.5°	6272.4	6323.3	6381.8	6317.1	6246.2
55°	5757.5	5837.7	5879.3	5843.8	5742.1
57.5°	5308.9	5366.0	5415.3	5379.9	5278.1
60°	4841.9	4905.1	4951.3	4923.6	4837.2
62.5°	4407.2	4499.7	4533.6	4488.9	4396.4
65°	4001.7	4089.6	4145.1	4081.9	3978.6
67.5°	3597.9	3713.5	3801.4	3725.8	3585.5
70°	3212.5	3365.1	3462.2	3346.6	3209.4
72.5°	2885.7	3022.9	3147.8	3018.3	2873.4
75°	2560.4	2686.8	2851.8	2696.1	2557.4
77.5°	2266.0	2386.2	2566.6	2381.6	2252.1
80°	1991.6	2087.2	2272.2	2081.0	1987.0
82.5°	1723.4	1794.3	1974.7	1791.2	1717.2
85°	1453.6	1507.6	1640.2	1507.6	1449.0
87.5°	1137.6	1225.5	1301.0	1222.4	1120.7
90°	850.9	932.6	975.8	929.5	847.8
92.5°	758.4	800.0	869.4	800.0	758.4
95°	665.9	701.4	764.6	699.8	669.0
97.5°	578.1	605.8	665.9	602.7	581.1
100°	497.9	511.8	567.3	514.9	494.8
102.5°	411.6	420.8	460.9	417.7	411.6
105°	325.3	329.9	354.5	331.4	323.7
107.5°	237.4	242.0	254.3	240.5	235.9
110°	157.2	160.3	175.7	160.3	158.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	90.9	98.7	114.1	98.7	90.9
115°	38.5	49.3	64.7	49.3	38.5
117.5°	12.3	20.0	24.7	20.0	10.8
120°	7.7	9.2	7.7	9.2	7.7
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)