

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: P381699

Luminaire Tested: **BMK-60-MFL-UNV-L735-CD-U**

Issue Date: 2/4/2020

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: P381699
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-5)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-60-MFL-UNV-L735-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH MEDIUM FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 61142.5 lumens
Efficiency: N/A
Efficacy: 150.7 lumens/watt
Spacing Criteria (0/90/45): 1.36 / 1.36 / 1.38
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

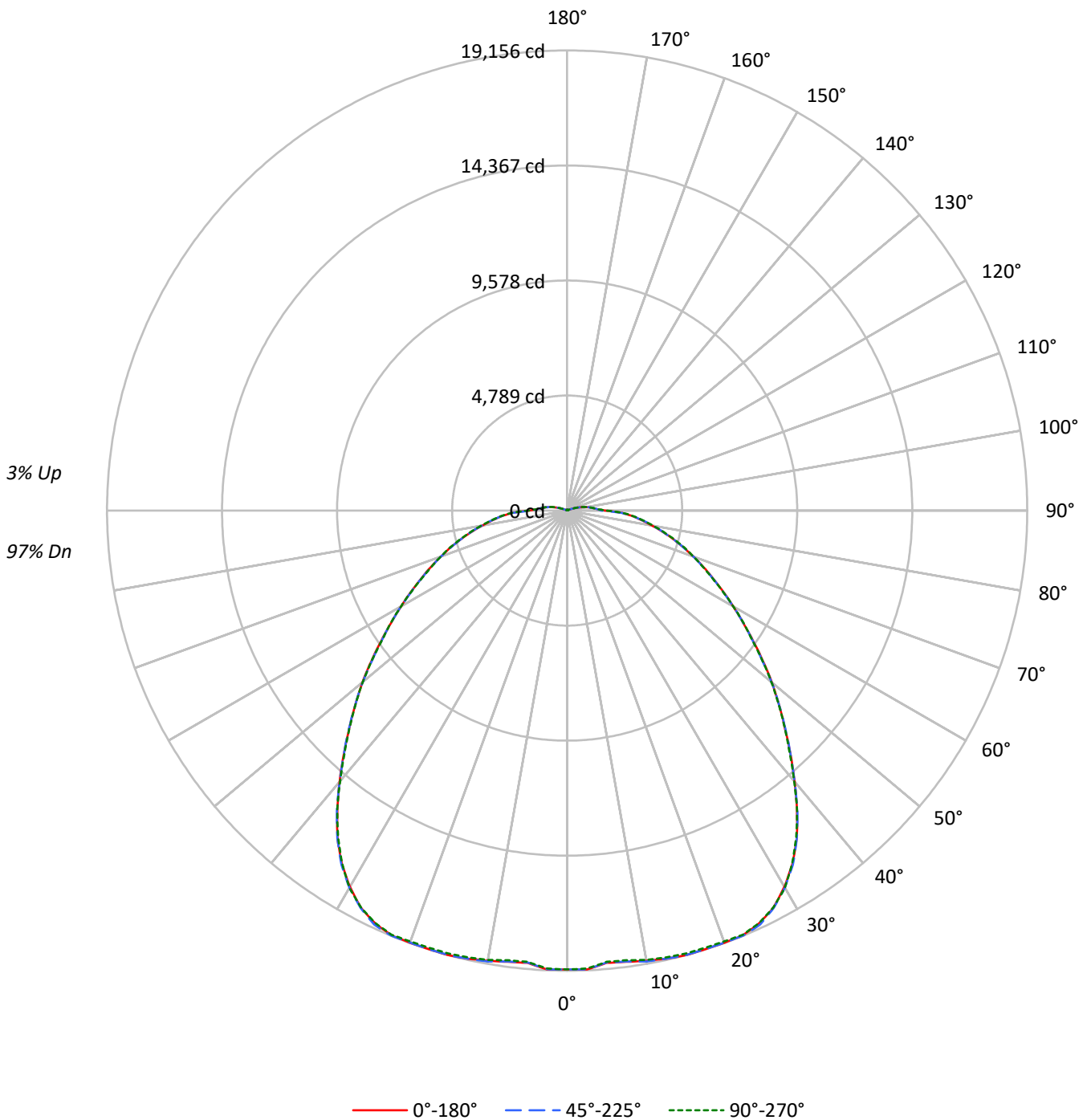
Input Watts (W): 405.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	97	92	104	99	95	91	94	90	87	89	87	84	85	83	81	78
2	97	88	81	75	94	86	79	74	82	76	71	78	73	69	75	71	67	65
3	88	77	69	62	85	76	68	61	72	65	60	69	63	58	66	61	57	55
4	81	69	60	53	78	67	59	52	64	57	51	61	55	50	59	53	49	47
5	74	61	52	45	72	60	51	45	57	50	44	55	49	43	53	47	43	40
6	69	55	46	40	67	54	46	39	52	44	39	50	43	38	48	42	38	35
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	33	31
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	37	31	27	25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	147311	147311	147311
5°	144810	144692	144495
10°	145977	146194	145672
15°	148217	148197	147700
20°	150560	150529	150115
25°	152736	153284	152622
30°	150668	151011	151043
35°	144839	144850	144426
40°	134861	134826	134520
45°	124989	125152	124865
50°	116829	116735	116600
55°	108520	108239	108048
60°	102085	102003	102085
65°	97498	97292	96901
70°	94974	94756	95040
75°	93886	93964	94838
80°	94874	95724	96608
85°	102687	103166	104944



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1810.1	3.0
10°-20°	5417.6	8.9
20°-30°	8705.4	14.2
30°-40°	10364.7	17.0
40°-50°	9928.4	16.2
50°-60°	8470.6	13.9
60°-70°	6662.4	10.9
70°-80°	4835.3	7.9
80°-90°	2954.9	4.8
90°-100°	1246.7	2.0
100°-110°	559.7	0.9
110°-120°	84.7	0.1
120°-130°	25.6	0.0
130°-140°	28.5	0.0
140°-150°	24.2	0.0
150°-160°	13.3	0.0
160°-170°	7.7	0.0
170°-180°	2.6	0.0
0°-30°	15933.2	26.1
0°-40°	26297.9	43.0
0°-60°	44696.9	73.1
0°-90°	59149.4	96.7
90°-120°	1891.0	3.1
90°-150°	1969.4	3.2
90°-180°	1993.0	3.3
0°-180°	61142.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	19099	19099	19099	19099	19099	
5°	18899	18860	18884	18905	18858	###
15°	19156	19090	19153	19181	19089	5421
25°	18946	18941	19014	18998	18932	8701
35°	16669	16644	16670	16688	16621	10362
45°	12827	12868	12844	12849	12814	9928
55°	9446	9450	9422	9413	9405	8486
65°	6710	6695	6696	6682	6669	6679
75°	4554	4577	4558	4552	4600	4824
85°	2744	2785	2757	2755	2804	2405
90°	1581	1583	1432	1556	1616	923
95°	1112	1136	1124	1116	1127	851
105°	515	528	524	525	532	552
115°	55	58	58	56	55	82
125°	28	30	28	28	30	25
135°	37	37	37	37	37	28
145°	40	40	40	40	38	24
155°	27	28	27	27	27	13
165°	28	27	27	27	27	8
175°	27	27	27	27	28	3
180°	27	27	27	27	27	



TEST NUMBER: P381699

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	19099.2	19099.2	19099.2	19099.2	19099.2
2.5°	19119.7	19070.9	19112.0	19126.1	19074.8
5°	18898.9	18860.4	18883.5	18905.3	18857.8
7.5°	18945.1	18884.7	18931.0	18942.5	18874.5
10°	19031.1	19028.6	19059.4	19046.5	18991.3
12.5°	19101.7	19072.2	19105.6	19110.7	19050.4
15°	19155.7	19090.2	19153.1	19181.3	19088.9
17.5°	19139.0	19070.9	19142.8	19181.3	19085.0
20°	19140.3	19059.4	19136.4	19164.7	19083.8
22.5°	19133.8	19085.0	19150.5	19182.6	19109.4
25°	18946.4	18941.2	19014.4	18997.7	18932.3
27.5°	18621.5	18594.6	18636.9	18653.6	18608.7
30°	18083.5	18065.6	18124.6	18156.7	18128.5
32.5°	17451.8	17449.3	17486.5	17458.2	17427.4
35°	16668.6	16644.2	16669.9	16687.9	16621.1
37.5°	15713.3	15715.9	15749.3	15699.2	15724.9
40°	14736.2	14751.6	14732.4	14718.2	14699.0
42.5°	13761.7	13775.8	13763.0	13759.1	13714.2
45°	12826.9	12868.0	12843.6	12848.8	12814.1
47.5°	11956.4	11969.2	11966.7	11947.4	11941.0
50°	11121.8	11112.8	11112.8	11065.3	11100.0
52.5°	10270.5	10273.1	10221.7	10206.3	10246.1
55°	9446.2	9450.1	9421.8	9412.8	9405.1
57.5°	8686.1	8679.7	8686.1	8659.1	8704.1
60°	7986.3	7982.5	7979.9	7956.8	7986.3
62.5°	7334.1	7321.2	7314.8	7302.0	7316.1
65°	6710.1	6694.7	6695.9	6681.8	6669.0
67.5°	6140.0	6128.4	6122.0	6119.4	6106.6
70°	5593.0	5585.3	5580.2	5567.3	5596.9
72.5°	5069.1	5073.0	5055.0	5043.5	5105.1
75°	4554.3	4577.4	4558.1	4551.7	4600.5
77.5°	4058.7	4097.2	4074.1	4071.5	4112.6
80°	3582.3	3627.2	3614.4	3602.8	3647.8
82.5°	3149.6	3199.7	3181.7	3166.3	3206.1
85°	2743.9	2784.9	2756.7	2755.4	2804.2
87.5°	2302.2	2339.4	2279.1	2311.2	2352.2
90°	1580.6	1583.1	1431.6	1556.2	1616.5
92.5°	1275.0	1299.4	1271.1	1277.6	1290.4
95°	1111.9	1136.3	1123.5	1115.8	1127.3
97.5°	965.6	986.1	973.3	972.0	982.2
100°	819.2	833.3	821.7	825.6	833.3
102.5°	674.1	686.9	680.5	683.1	693.3
105°	514.9	527.7	523.9	525.1	531.6
107.5°	365.9	372.4	365.9	368.5	377.5
110°	228.5	235.0	224.7	231.1	242.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	118.1	125.8	128.4	125.8	122.0
115°	55.2	57.8	57.8	56.5	55.2
117.5°	27.0	27.0	25.7	27.0	27.0
120°	23.1	24.4	23.1	23.1	24.4
122.5°	25.7	27.0	25.7	25.7	27.0
125°	28.2	29.5	28.2	28.2	29.5
127.5°	30.8	32.1	30.8	30.8	32.1
130°	33.4	33.4	33.4	33.4	33.4
132.5°	34.7	36.0	34.7	34.7	36.0
135°	37.2	37.2	37.2	37.2	37.2
137.5°	38.5	38.5	38.5	38.5	39.8
140°	39.8	39.8	39.8	39.8	39.8
142.5°	41.1	39.8	39.8	41.1	39.8
145°	39.8	39.8	39.8	39.8	38.5
147.5°	37.2	37.2	37.2	37.2	37.2
150°	33.4	33.4	33.4	33.4	33.4
152.5°	29.5	29.5	29.5	29.5	29.5
155°	27.0	28.2	27.0	27.0	27.0
157.5°	28.2	28.2	27.0	27.0	27.0
160°	28.2	28.2	27.0	27.0	27.0
162.5°	28.2	28.2	27.0	27.0	27.0
165°	28.2	27.0	27.0	27.0	27.0
167.5°	28.2	27.0	27.0	27.0	27.0
170°	28.2	28.2	27.0	27.0	27.0
172.5°	27.0	28.2	27.0	27.0	27.0
175°	27.0	27.0	27.0	27.0	28.2
177.5°	25.7	25.7	27.0	27.0	28.2
180°	27.0	27.0	27.0	27.0	27.0

(END OF REPORT)