

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: P381693

Luminaire Tested: **BMK-50-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: P381693  
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-50-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: 51844.6 lumens  
Efficiency: N/A  
Efficacy: 155.9 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

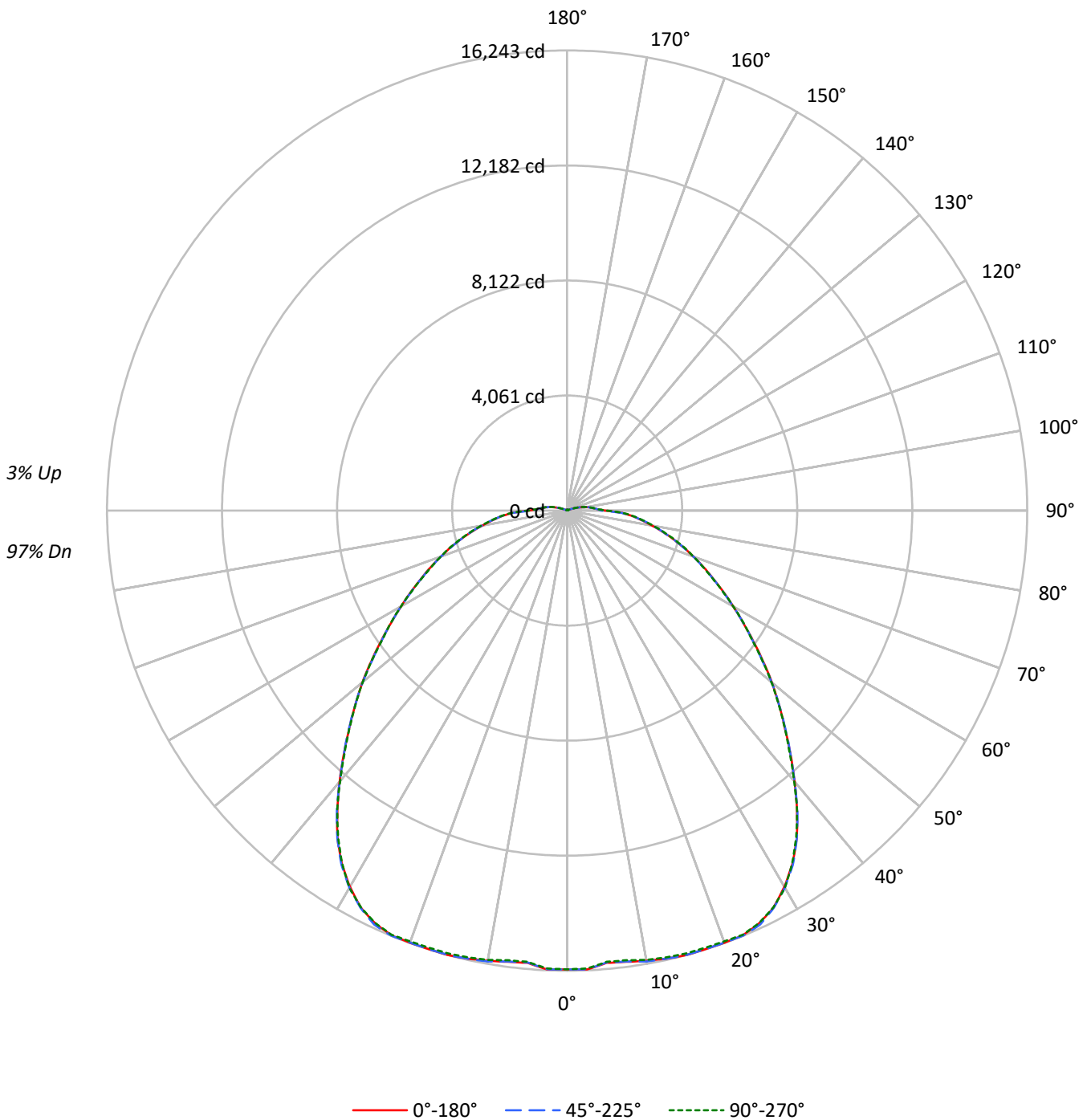
Input Watts (W): 332.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	124909	124909	124909
5°	122789	122688	122522
10°	123778	123962	123519
15°	125677	125661	125239
20°	127664	127638	127287
25°	129509	129974	129412
30°	127756	128046	128074
35°	122813	122823	122463
40°	114353	114323	114064
45°	105982	106120	105876
50°	99063	98983	98868
55°	92017	91779	91617
60°	86560	86491	86560
65°	82671	82497	82164
70°	80531	80346	80586
75°	79608	79676	80416
80°	80445	81168	81918
85°	87070	87478	88986



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1534.9	3.0
10°-20°	4593.7	8.9
20°-30°	7381.6	14.2
30°-40°	8788.5	17.0
40°-50°	8418.5	16.2
50°-60°	7182.5	13.9
60°-70°	5649.2	10.9
70°-80°	4100.0	7.9
80°-90°	2505.5	4.8
90°-100°	1057.1	2.0
100°-110°	474.6	0.9
110°-120°	71.8	0.1
120°-130°	21.7	0.0
130°-140°	24.2	0.0
140°-150°	20.6	0.0
150°-160°	11.3	0.0
160°-170°	6.6	0.0
170°-180°	2.2	0.0
0°-30°	13510.2	26.1
0°-40°	22298.7	43.0
0°-60°	37899.8	73.1
0°-90°	50154.5	96.7
90°-120°	1603.5	3.1
90°-150°	1670.0	3.2
90°-180°	1690.0	3.3
0°-180°	51844.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	16195	16195	16195	16195	16195	
5°	16025	15992	16012	16030	15990	###
15°	16243	16187	16240	16264	16186	4597
25°	16065	16061	16123	16109	16053	7378
35°	14134	14113	14135	14150	14094	8786
45°	10876	10911	10890	10895	10865	8418
55°	8010	8013	7989	7981	7975	7196
65°	5690	5677	5678	5666	5655	5663
75°	3862	3881	3865	3860	3901	4091
85°	2327	2361	2338	2336	2378	2039
90°	1340	1342	1214	1320	1371	783
95°	943	964	953	946	956	722
105°	437	448	444	445	451	468
115°	47	49	49	48	47	70
125°	24	25	24	24	25	21
135°	32	32	32	32	32	24
145°	34	34	34	34	33	21
155°	23	24	23	23	23	11
165°	24	23	23	23	23	7
175°	23	23	23	23	24	2
180°	23	23	23	23	23	



TEST NUMBER: P381693

CATALOG NUMBER: BMK-50-MFL-UNV-L735-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	16194.7	16194.7	16194.7	16194.7	16194.7
2.5°	16212.1	16170.8	16205.6	16217.6	16174.0
5°	16024.9	15992.2	16011.8	16030.3	15990.1
7.5°	16064.1	16012.9	16052.1	16061.9	16004.2
10°	16137.0	16134.9	16161.0	16150.1	16103.3
12.5°	16196.9	16171.9	16200.2	16204.5	16153.4
15°	16242.6	16187.1	16240.5	16264.4	16186.0
17.5°	16228.5	16170.8	16231.7	16264.4	16182.8
20°	16229.6	16161.0	16226.3	16250.3	16181.7
22.5°	16224.1	16182.8	16238.3	16265.5	16203.4
25°	16065.2	16060.8	16122.9	16108.7	16053.2
27.5°	15789.7	15766.9	15802.8	15816.9	15778.8
30°	15333.6	15318.3	15368.4	15395.6	15371.7
32.5°	14797.9	14795.7	14827.3	14803.3	14777.2
35°	14133.8	14113.1	14134.9	14150.1	14093.5
37.5°	13323.8	13325.9	13354.3	13311.8	13333.6
40°	12495.3	12508.3	12492.0	12480.0	12463.7
42.5°	11668.9	11680.9	11670.0	11666.7	11628.6
45°	10876.3	10911.2	10890.5	10894.8	10865.4
47.5°	10138.2	10149.1	10146.9	10130.6	10125.1
50°	9430.5	9422.9	9422.9	9382.6	9412.0
52.5°	8708.7	8710.9	8667.3	8654.2	8688.0
55°	8009.7	8013.0	7989.0	7981.4	7974.9
57.5°	7365.2	7359.8	7365.2	7342.3	7380.4
60°	6771.8	6768.6	6766.4	6746.8	6771.8
62.5°	6218.8	6207.9	6202.4	6191.6	6203.5
65°	5689.7	5676.6	5677.7	5665.7	5654.8
67.5°	5206.3	5196.5	5191.0	5188.8	5178.0
70°	4742.5	4735.9	4731.6	4720.7	4745.7
72.5°	4298.3	4301.5	4286.3	4276.5	4328.8
75°	3861.7	3881.3	3865.0	3859.5	3900.9
77.5°	3441.4	3474.1	3454.5	3452.3	3487.2
80°	3037.5	3075.6	3064.8	3055.0	3093.1
82.5°	2670.6	2713.1	2697.9	2684.8	2718.5
85°	2326.6	2361.4	2337.5	2336.4	2377.8
87.5°	1952.1	1983.7	1932.5	1959.7	1994.5
90°	1340.2	1342.4	1213.9	1319.5	1370.7
92.5°	1081.1	1101.8	1077.8	1083.3	1094.2
95°	942.8	963.5	952.6	946.1	955.9
97.5°	818.7	836.1	825.3	824.2	832.9
100°	694.6	706.6	696.8	700.0	706.6
102.5°	571.6	582.5	577.0	579.2	587.9
105°	436.6	447.5	444.2	445.3	450.7
107.5°	310.3	315.7	310.3	312.5	320.1
110°	193.8	199.2	190.5	196.0	205.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	100.2	106.7	108.9	106.7	103.4
115°	46.8	49.0	49.0	47.9	46.8
117.5°	22.9	22.9	21.8	22.9	22.9
120°	19.6	20.7	19.6	19.6	20.7
122.5°	21.8	22.9	21.8	21.8	22.9
125°	24.0	25.0	24.0	24.0	25.0
127.5°	26.1	27.2	26.1	26.1	27.2
130°	28.3	28.3	28.3	28.3	28.3
132.5°	29.4	30.5	29.4	29.4	30.5
135°	31.6	31.6	31.6	31.6	31.6
137.5°	32.7	32.7	32.7	32.7	33.8
140°	33.8	33.8	33.8	33.8	33.8
142.5°	34.8	33.8	33.8	34.8	33.8
145°	33.8	33.8	33.8	33.8	32.7
147.5°	31.6	31.6	31.6	31.6	31.6
150°	28.3	28.3	28.3	28.3	28.3
152.5°	25.0	25.0	25.0	25.0	25.0
155°	22.9	24.0	22.9	22.9	22.9
157.5°	24.0	24.0	22.9	22.9	22.9
160°	24.0	24.0	22.9	22.9	22.9
162.5°	24.0	24.0	22.9	22.9	22.9
165°	24.0	22.9	22.9	22.9	22.9
167.5°	24.0	22.9	22.9	22.9	22.9
170°	24.0	24.0	22.9	22.9	22.9
172.5°	22.9	24.0	22.9	22.9	22.9
175°	22.9	22.9	22.9	22.9	24.0
177.5°	21.8	21.8	22.9	22.9	24.0
180°	22.9	22.9	22.9	22.9	22.9

(END OF REPORT)