

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: P381694

Luminaire Tested: **BMK-50-MFL-UNV-L740-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: P381694
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-L740-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: 52530.0 lumens
Efficiency: N/A
Efficacy: 158.0 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

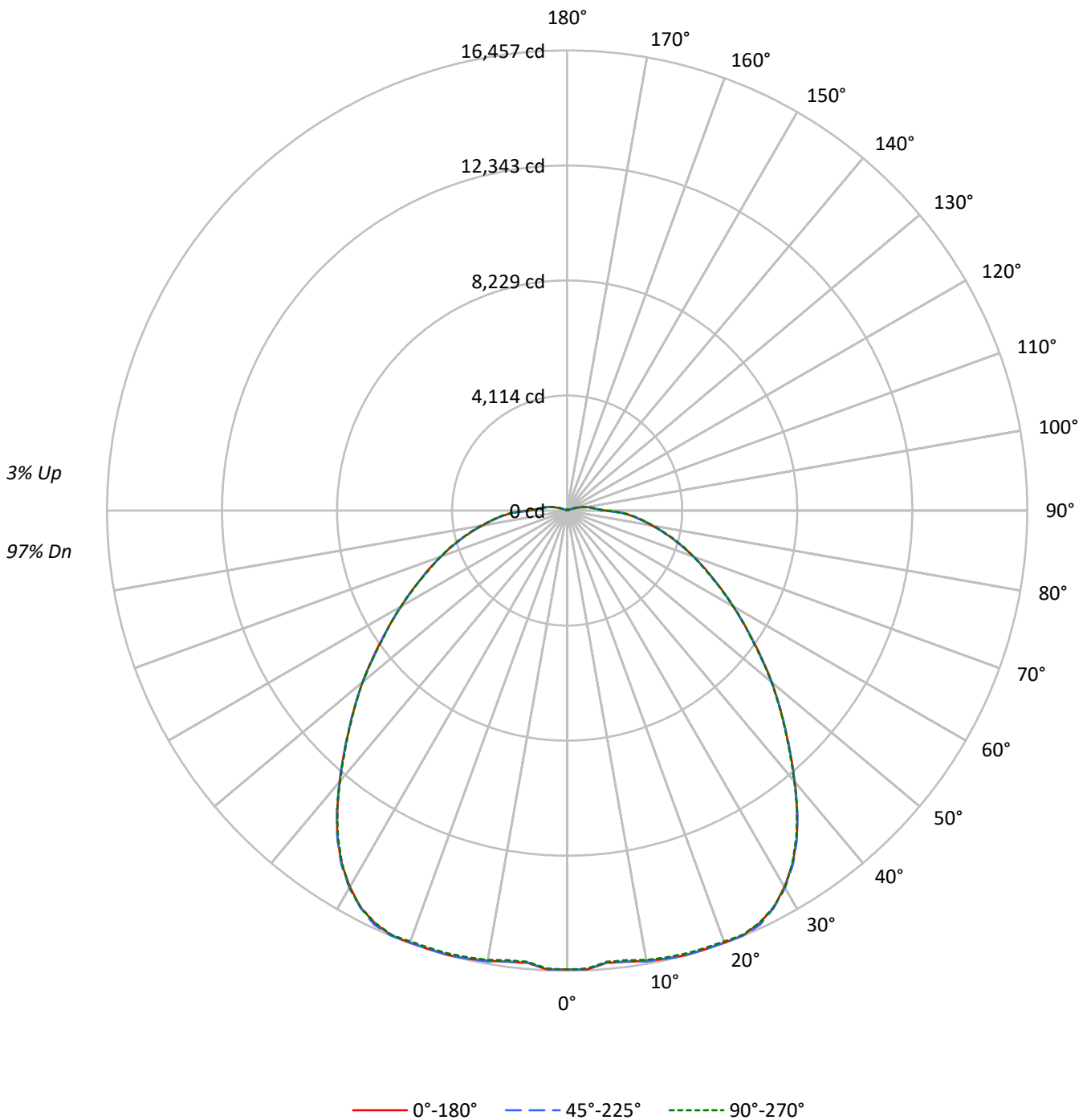
Input Watts (W): 332.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	126560	126560	126560
5°	124412	124310	124141
10°	125415	125600	125152
15°	127339	127322	126895
20°	129351	129325	128970
25°	131221	131692	131123
30°	129445	129739	129767
35°	124436	124446	124082
40°	115864	115834	115572
45°	107383	107524	107276
50°	100373	100292	100175
55°	93234	92993	92828
60°	87706	87635	87706
65°	83764	83587	83251
70°	81596	81408	81652
75°	80659	80729	81480
80°	81510	82241	82998
85°	88223	88634	90161



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1555.2	3.0
10°-20°	4654.5	8.9
20°-30°	7479.2	14.2
30°-40°	8904.7	17.0
40°-50°	8529.8	16.2
50°-60°	7277.5	13.9
60°-70°	5723.9	10.9
70°-80°	4154.2	7.9
80°-90°	2538.6	4.8
90°-100°	1071.1	2.0
100°-110°	480.9	0.9
110°-120°	72.7	0.1
120°-130°	22.1	0.0
130°-140°	24.5	0.0
140°-150°	20.8	0.0
150°-160°	11.5	0.0
160°-170°	6.7	0.0
170°-180°	2.2	0.0
0°-30°	13688.8	26.1
0°-40°	22593.5	43.0
0°-60°	38400.8	73.1
0°-90°	50817.6	96.7
90°-120°	1624.7	3.1
90°-150°	1692.1	3.2
90°-180°	1712.0	3.3
0°-180°	52530.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	16409	16409	16409	16409	16409	
5°	16237	16204	16224	16242	16201	###
15°	16457	16401	16455	16479	16400	4658
25°	16278	16273	16336	16322	16265	7475
35°	14321	14300	14322	14337	14280	8902
45°	11020	11055	11034	11039	11009	8529
55°	8116	8119	8095	8087	8080	7291
65°	5765	5752	5753	5741	5730	5738
75°	3913	3933	3916	3910	3952	4145
85°	2357	2393	2368	2367	2409	2066
90°	1358	1360	1230	1337	1389	793
95°	955	976	965	959	968	731
105°	442	453	450	451	457	474
115°	47	50	50	48	47	71
125°	24	25	24	24	25	22
135°	32	32	32	32	32	24
145°	34	34	34	34	33	21
155°	23	24	23	23	23	12
165°	24	23	23	23	23	7
175°	23	23	23	23	24	2
180°	23	23	23	23	23	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	16408.8	16408.8	16408.8	16408.8	16408.8
2.5°	16426.5	16384.6	16419.9	16432.0	16387.9
5°	16236.7	16203.6	16223.5	16242.3	16201.4
7.5°	16276.5	16224.6	16264.3	16274.2	16215.8
10°	16350.4	16348.2	16374.6	16363.6	16316.2
12.5°	16411.0	16385.7	16414.3	16418.8	16366.9
15°	16457.4	16401.1	16455.2	16479.4	16400.0
17.5°	16443.0	16384.6	16446.3	16479.4	16396.7
20°	16444.1	16374.6	16440.8	16465.1	16395.6
22.5°	16438.6	16396.7	16453.0	16480.5	16417.7
25°	16277.6	16273.1	16336.0	16321.7	16265.4
27.5°	15998.5	15975.3	16011.7	16026.0	15987.4
30°	15536.3	15520.8	15571.6	15599.1	15574.9
32.5°	14993.5	14991.3	15023.3	14999.0	14972.6
35°	14320.6	14299.7	14321.7	14337.2	14279.8
37.5°	13499.9	13502.1	13530.8	13487.8	13509.8
40°	12660.4	12673.7	12657.1	12645.0	12628.5
42.5°	11823.2	11835.3	11824.3	11821.0	11782.4
45°	11020.1	11055.4	11034.5	11038.9	11009.1
47.5°	10272.2	10283.2	10281.0	10264.5	10259.0
50°	9555.2	9547.5	9547.5	9506.6	9536.4
52.5°	8823.8	8826.0	8781.9	8768.7	8802.9
55°	8115.6	8118.9	8094.7	8086.9	8080.3
57.5°	7462.6	7457.1	7462.6	7439.4	7478.0
60°	6861.4	6858.1	6855.9	6836.0	6861.4
62.5°	6301.0	6290.0	6284.4	6273.4	6285.5
65°	5764.9	5751.6	5752.7	5740.6	5729.6
67.5°	5275.1	5265.2	5259.7	5257.4	5246.4
70°	4805.2	4798.5	4794.1	4783.1	4808.5
72.5°	4355.1	4358.4	4343.0	4333.0	4386.0
75°	3912.7	3932.6	3916.1	3910.5	3952.5
77.5°	3486.9	3520.0	3500.2	3498.0	3533.3
80°	3077.7	3116.3	3105.3	3095.3	3133.9
82.5°	2705.9	2749.0	2733.5	2720.3	2754.5
85°	2357.4	2392.7	2368.4	2367.3	2409.2
87.5°	1977.9	2009.9	1958.0	1985.6	2020.9
90°	1357.9	1360.1	1230.0	1337.0	1388.8
92.5°	1095.4	1116.4	1092.1	1097.6	1108.6
95°	955.3	976.3	965.2	958.6	968.5
97.5°	829.5	847.2	836.2	835.1	843.9
100°	703.8	715.9	706.0	709.3	715.9
102.5°	579.1	590.2	584.7	586.9	595.7
105°	442.3	453.4	450.1	451.2	456.7
107.5°	314.4	319.9	314.4	316.6	324.3
110°	196.4	201.9	193.0	198.6	208.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	101.5	108.1	110.3	108.1	104.8
115°	47.4	49.6	49.6	48.5	47.4
117.5°	23.2	23.2	22.1	23.2	23.2
120°	19.9	21.0	19.9	19.9	21.0
122.5°	22.1	23.2	22.1	22.1	23.2
125°	24.3	25.4	24.3	24.3	25.4
127.5°	26.5	27.6	26.5	26.5	27.6
130°	28.7	28.7	28.7	28.7	28.7
132.5°	29.8	30.9	29.8	29.8	30.9
135°	32.0	32.0	32.0	32.0	32.0
137.5°	33.1	33.1	33.1	33.1	34.2
140°	34.2	34.2	34.2	34.2	34.2
142.5°	35.3	34.2	34.2	35.3	34.2
145°	34.2	34.2	34.2	34.2	33.1
147.5°	32.0	32.0	32.0	32.0	32.0
150°	28.7	28.7	28.7	28.7	28.7
152.5°	25.4	25.4	25.4	25.4	25.4
155°	23.2	24.3	23.2	23.2	23.2
157.5°	24.3	24.3	23.2	23.2	23.2
160°	24.3	24.3	23.2	23.2	23.2
162.5°	24.3	24.3	23.2	23.2	23.2
165°	24.3	23.2	23.2	23.2	23.2
167.5°	24.3	23.2	23.2	23.2	23.2
170°	24.3	24.3	23.2	23.2	23.2
172.5°	23.2	24.3	23.2	23.2	23.2
175°	23.2	23.2	23.2	23.2	24.3
177.5°	22.1	22.1	23.2	23.2	24.3
180°	23.2	23.2	23.2	23.2	23.2

(END OF REPORT)