

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: P381706

Luminaire Tested: **BMK-70-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: P381706
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-70-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: 72897.7 lumens
Efficiency: N/A
Efficacy: 145.6 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

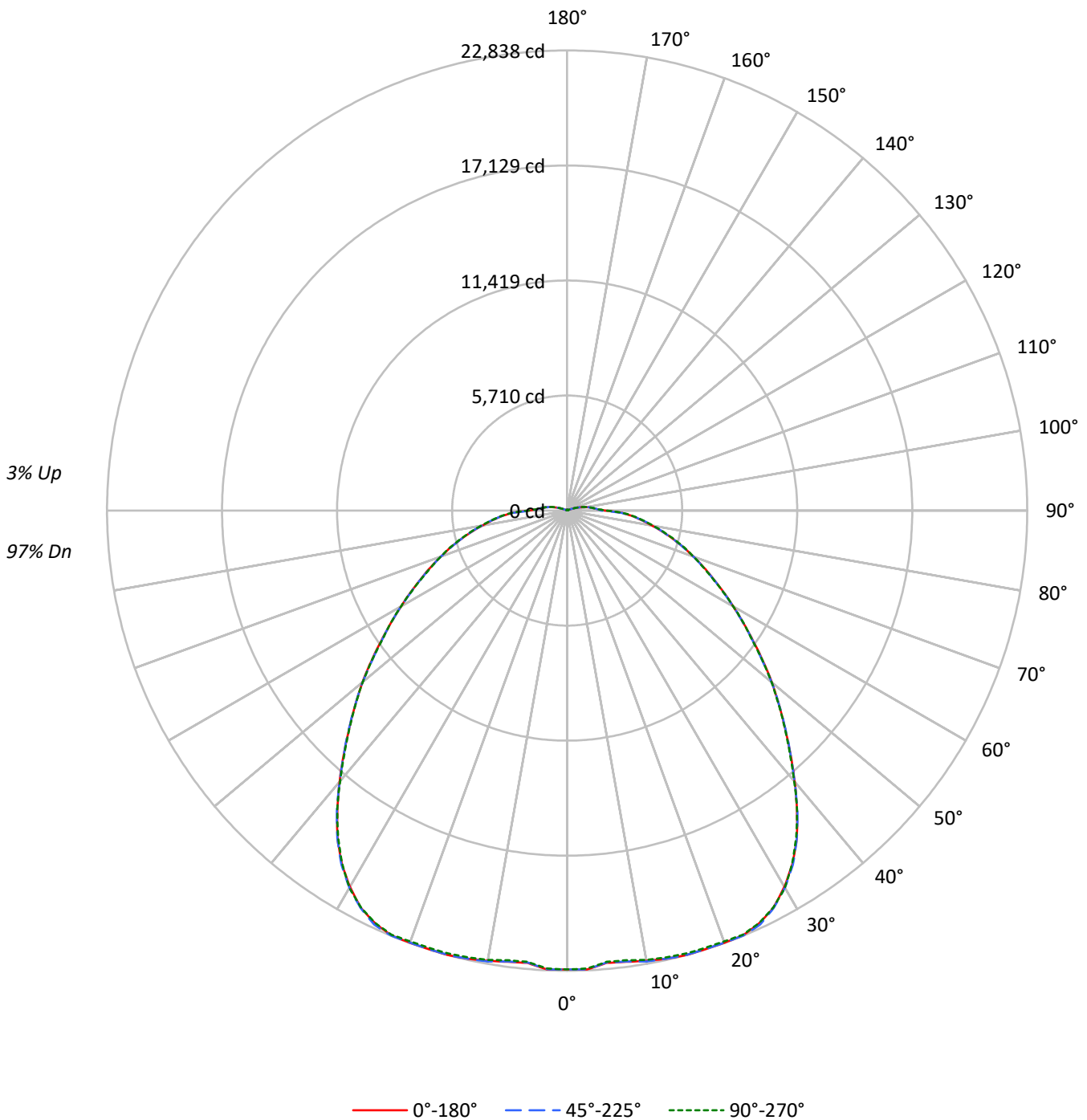
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	97	
1	107	101	97	92	104	99	95	91	94	90	87	89	87	84	85	83	81	85	83	81	78	
2	97	88	81	75	94	86	79	74	82	76	71	78	73	69	75	71	67	75	71	67	65	
3	88	77	69	62	85	76	68	61	72	65	60	69	63	58	66	61	57	66	61	57	55	
4	81	69	60	53	78	67	59	52	64	57	51	61	55	50	59	53	49	59	53	49	47	
5	74	61	52	45	72	60	51	45	57	50	44	55	49	43	53	47	43	53	47	43	40	
6	69	55	46	40	67	54	46	39	52	44	39	50	43	38	48	42	38	48	42	38	35	
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	33	44	38	33	31	
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	40	34	30	40	34	30	28	
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	37	31	27	37	31	27	25	
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25	35	29	25	23	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	175633	175633	175633
5°	172651	172510	172276
10°	174042	174301	173679
15°	176713	176689	176097
20°	179505	179469	178976
25°	182100	182754	181964
30°	179636	180044	180082
35°	172685	172698	172193
40°	160789	160747	160383
45°	149020	149214	148871
50°	139291	139179	139018
55°	129383	129050	128822
60°	121712	121614	121712
65°	116242	115998	115531
70°	113233	112973	113311
75°	111936	112031	113072
80°	113113	114127	115182
85°	122428	123001	125119



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2158.2	3.0
10°-20°	6459.2	8.9
20°-30°	10379.1	14.2
30°-40°	12357.4	17.0
40°-50°	11837.2	16.2
50°-60°	10099.2	13.9
60°-70°	7943.3	10.9
70°-80°	5765.0	7.9
80°-90°	3522.9	4.8
90°-100°	1486.4	2.0
100°-110°	667.3	0.9
110°-120°	100.9	0.1
120°-130°	30.6	0.0
130°-140°	34.0	0.0
140°-150°	28.9	0.0
150°-160°	15.9	0.0
160°-170°	9.2	0.0
170°-180°	3.1	0.0
0°-30°	18996.5	26.1
0°-40°	31353.9	43.0
0°-60°	53290.3	73.1
0°-90°	70521.5	96.7
90°-120°	2254.6	3.1
90°-150°	2348.1	3.2
90°-180°	2376.0	3.3
0°-180°	72897.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	22771	22771	22771	22771	22771	
5°	22532	22486	22514	22540	22483	###
15°	22838	22760	22835	22869	22759	6464
25°	22589	22583	22670	22650	22572	10374
35°	19873	19844	19875	19896	19817	12354
45°	15293	15342	15313	15319	15278	11836
55°	11262	11267	11233	11222	11213	10118
65°	8000	7982	7983	7966	7951	7963
75°	5430	5457	5434	5427	5485	5752
85°	3271	3320	3287	3285	3343	2868
90°	1884	1888	1707	1855	1927	1101
95°	1326	1355	1340	1330	1344	1015
105°	614	629	625	626	634	658
115°	66	69	69	67	66	98
125°	34	35	34	34	35	30
135°	44	44	44	44	44	34
145°	48	48	48	48	46	29
155°	32	34	32	32	32	16
165°	34	32	32	32	32	10
175°	32	32	32	32	34	3
180°	32	32	32	32	32	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	22771.2	22771.2	22771.2	22771.2	22771.2
2.5°	22795.6	22737.5	22786.5	22803.3	22742.1
5°	22532.3	22486.4	22514.0	22540.0	22483.4
7.5°	22587.5	22515.5	22570.6	22584.4	22503.3
10°	22690.0	22687.0	22723.7	22708.4	22642.6
12.5°	22774.2	22739.0	22778.8	22784.9	22713.0
15°	22838.5	22760.4	22835.4	22869.1	22758.9
17.5°	22818.6	22737.5	22823.2	22869.1	22754.3
20°	22820.1	22723.7	22815.5	22849.2	22752.8
22.5°	22812.5	22754.3	22832.4	22870.7	22783.4
25°	22589.0	22582.9	22670.1	22650.2	22572.1
27.5°	22201.7	22169.5	22220.1	22240.0	22186.4
30°	21560.3	21538.8	21609.3	21647.5	21613.8
32.5°	20807.1	20804.0	20848.4	20814.7	20778.0
35°	19873.3	19844.2	19874.8	19896.2	19816.6
37.5°	18734.3	18737.4	18777.2	18717.5	18748.1
40°	17569.4	17587.8	17564.8	17547.9	17525.0
42.5°	16407.5	16424.3	16409.0	16404.4	16350.8
45°	15293.0	15342.0	15312.9	15319.1	15277.7
47.5°	14255.1	14270.4	14267.4	14244.4	14236.8
50°	13260.1	13249.4	13249.4	13192.7	13234.1
52.5°	12245.1	12248.2	12187.0	12168.6	12216.1
55°	11262.3	11266.9	11233.3	11222.5	11213.4
57.5°	10356.1	10348.4	10356.1	10323.9	10377.5
60°	9521.8	9517.2	9514.1	9486.6	9521.8
62.5°	8744.1	8728.8	8721.2	8705.9	8722.7
65°	8000.1	7981.8	7983.3	7966.5	7951.2
67.5°	7320.4	7306.7	7299.0	7296.0	7280.6
70°	6668.3	6659.1	6653.0	6637.7	6672.9
72.5°	6043.7	6048.3	6026.9	6013.1	6086.6
75°	5429.9	5457.4	5434.5	5426.8	5485.0
77.5°	4839.0	4884.9	4857.3	4854.3	4903.3
80°	4271.0	4324.6	4309.3	4295.5	4349.1
82.5°	3755.1	3814.8	3793.4	3775.0	3822.5
85°	3271.4	3320.4	3286.7	3285.2	3343.3
87.5°	2744.8	2789.2	2717.2	2755.5	2804.5
90°	1884.5	1887.5	1706.9	1855.4	1927.3
92.5°	1520.1	1549.2	1515.5	1523.2	1538.5
95°	1325.7	1354.8	1339.5	1330.3	1344.1
97.5°	1151.2	1175.7	1160.4	1158.8	1171.1
100°	976.7	993.5	979.7	984.3	993.5
102.5°	803.7	819.0	811.3	814.4	826.7
105°	613.9	629.2	624.6	626.1	633.8
107.5°	436.3	443.9	436.3	439.3	450.1
110°	272.5	280.1	267.9	275.6	289.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	140.8	150.0	153.1	150.0	145.4
115°	65.8	68.9	68.9	67.4	65.8
117.5°	32.1	32.1	30.6	32.1	32.1
120°	27.6	29.1	27.6	27.6	29.1
122.5°	30.6	32.1	30.6	30.6	32.1
125°	33.7	35.2	33.7	33.7	35.2
127.5°	36.7	38.3	36.7	36.7	38.3
130°	39.8	39.8	39.8	39.8	39.8
132.5°	41.3	42.9	41.3	41.3	42.9
135°	44.4	44.4	44.4	44.4	44.4
137.5°	45.9	45.9	45.9	45.9	47.5
140°	47.5	47.5	47.5	47.5	47.5
142.5°	49.0	47.5	47.5	49.0	47.5
145°	47.5	47.5	47.5	47.5	45.9
147.5°	44.4	44.4	44.4	44.4	44.4
150°	39.8	39.8	39.8	39.8	39.8
152.5°	35.2	35.2	35.2	35.2	35.2
155°	32.1	33.7	32.1	32.1	32.1
157.5°	33.7	33.7	32.1	32.1	32.1
160°	33.7	33.7	32.1	32.1	32.1
162.5°	33.7	33.7	32.1	32.1	32.1
165°	33.7	32.1	32.1	32.1	32.1
167.5°	33.7	32.1	32.1	32.1	32.1
170°	33.7	33.7	32.1	32.1	32.1
172.5°	32.1	33.7	32.1	32.1	32.1
175°	32.1	32.1	32.1	32.1	33.7
177.5°	30.6	30.6	32.1	32.1	33.7
180°	32.1	32.1	32.1	32.1	32.1

(END OF REPORT)