

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: P295465

Luminaire Tested: **BMK-24-MFL-UNV-L740-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: P295465
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-24-MFL-UNV-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM FROSTED LENS
Light Source: (528) 70 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25795.0 lumens
Efficiency: N/A
Efficacy: 165.9 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

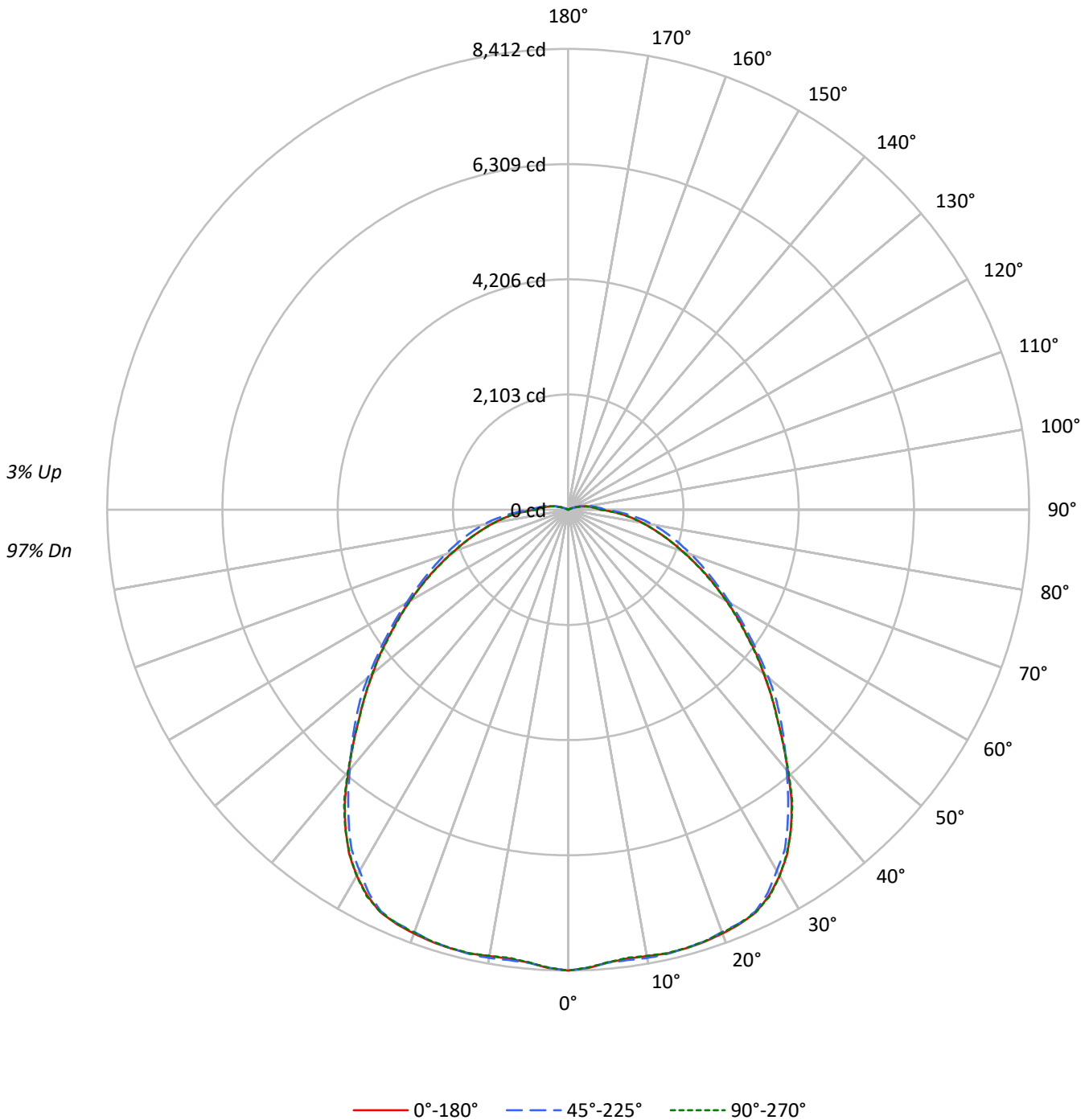
Input Watts (W): 155.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	64850	64850	64850
5°	63530	63571	63522
10°	63435	63703	63402
15°	64112	64063	64071
20°	64719	64502	64610
25°	65316	65171	65299
30°	64234	63384	64295
35°	61538	60642	61630
40°	57029	56718	57233
45°	52580	53552	52517
50°	48863	50112	49097
55°	45559	46523	45438
60°	42631	43594	42590
65°	40051	41486	39819
70°	37576	40497	37540
75°	36357	40495	36314
80°	36335	41452	36250
85°	37474	42285	37354



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	792.0	3.1
10°-20°	2345.5	9.1
20°-30°	3709.7	14.4
30°-40°	4387.5	17.0
40°-50°	4217.4	16.3
50°-60°	3603.9	14.0
60°-70°	2796.3	10.8
70°-80°	1972.5	7.6
80°-90°	1142.0	4.4
90°-100°	536.2	2.1
100°-110°	246.9	1.0
110°-120°	44.5	0.2
120°-130°	0.7	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°	6847.2	26.5
0°-40°	11234.7	43.6
0°-60°	19056.0	73.9
0°-90°	24966.7	96.8
90°-120°	827.6	3.2
90°-150°	828.3	3.2
90°-180°	828.0	3.2
0°-180°	25795.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8412	8412	8412	8412	8412	
5°	8295	8297	8301	8289	8294	791
15°	8290	8298	8284	8289	8285	2346
25°	8106	8086	8088	8085	8104	3720
35°	7085	7039	6982	7047	7096	4410
45°	5398	5472	5498	5459	5392	4180
55°	3968	4023	4052	4027	3957	3565
65°	2758	2818	2856	2813	2742	2735
75°	1764	1852	1965	1858	1762	1877
85°	1002	1039	1130	1039	998	889
90°	586	643	672	641	584	340
95°	459	483	527	482	461	352
105°	224	227	244	228	223	238
115°	27	34	45	34	27	39
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°	8412.2	8412.2	8412.2	8412.2	8412.2
2.5°	8371.8	8363.3	8366.5	8356.9	8363.3
5°	8295.3	8297.4	8300.6	8288.9	8294.3
7.5°	8262.4	8273.0	8292.1	8267.7	8248.6
10°	8274.1	8292.1	8309.1	8282.6	8269.8
12.5°	8296.4	8301.7	8308.1	8295.3	8294.3
15°	8290.0	8298.5	8283.6	8288.9	8284.7
17.5°	8269.8	8273.0	8262.4	8267.7	8261.3
20°	8231.6	8226.3	8204.0	8221.0	8217.8
22.5°	8185.9	8178.5	8172.1	8181.6	8176.3
25°	8106.2	8086.0	8088.2	8085.0	8104.1
27.5°	7940.5	7907.6	7885.3	7901.2	7956.4
30°	7713.2	7668.6	7611.2	7665.4	7720.6
32.5°	7443.4	7409.4	7357.3	7406.2	7429.6
35°	7085.4	7038.6	6982.3	7047.1	7096.0
37.5°	6695.5	6666.8	6593.5	6663.7	6715.7
40°	6234.5	6240.9	6200.5	6255.7	6256.8
42.5°	5805.3	5848.9	5845.7	5845.7	5805.3
45°	5398.5	5471.8	5498.3	5459.0	5392.1
47.5°	5028.8	5102.1	5147.8	5095.7	5025.6
50°	4653.8	4731.4	4772.8	4721.8	4676.1
52.5°	4322.4	4357.5	4397.8	4353.2	4304.3
55°	3967.6	4022.8	4051.5	4027.1	3957.0
57.5°	3658.5	3697.8	3731.8	3707.3	3637.2
60°	3336.6	3380.2	3412.0	3392.9	3333.4
62.5°	3037.0	3100.8	3124.2	3093.3	3029.6
65°	2757.7	2818.2	2856.5	2812.9	2741.7
67.5°	2479.4	2559.0	2619.6	2567.5	2470.9
70°	2213.8	2318.9	2385.9	2306.2	2211.7
72.5°	1988.6	2083.1	2169.2	2079.9	1980.1
75°	1764.4	1851.5	1965.2	1857.9	1762.3
77.5°	1561.5	1644.4	1768.7	1641.2	1552.0
80°	1372.5	1438.3	1565.8	1434.1	1369.3
82.5°	1187.6	1236.5	1360.8	1234.4	1183.4
85°	1001.7	1038.9	1130.3	1038.9	998.5
87.5°	784.0	844.5	896.6	842.4	772.3
90°	586.4	642.7	672.4	640.6	584.3
92.5°	522.6	551.3	599.1	551.3	522.6
95°	458.9	483.3	526.9	482.3	461.0
97.5°	398.4	417.5	458.9	415.3	400.5
100°	343.1	352.7	390.9	354.8	341.0
102.5°	283.6	290.0	317.6	287.9	283.6
105°	224.1	227.3	244.3	228.4	223.1
107.5°	163.6	166.8	175.3	165.7	162.5
110°	108.4	110.5	121.1	110.5	109.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	62.7	68.0	78.6	68.0	62.7
115°	26.6	34.0	44.6	34.0	26.6
117.5°	8.5	13.8	17.0	13.8	7.4
120°	5.3	6.4	5.3	6.4	5.3
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)