

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: P295516

Luminaire Tested: **BMK-36-MCL-UNV-L840-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: P295516
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1904-251-5)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-36-MCL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH MEDIUM CLEAR LENS
Light Source: (528) 80 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 36213.0 lumens
Efficiency: N/A
Efficacy: 149.0 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.37 / 1.37
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

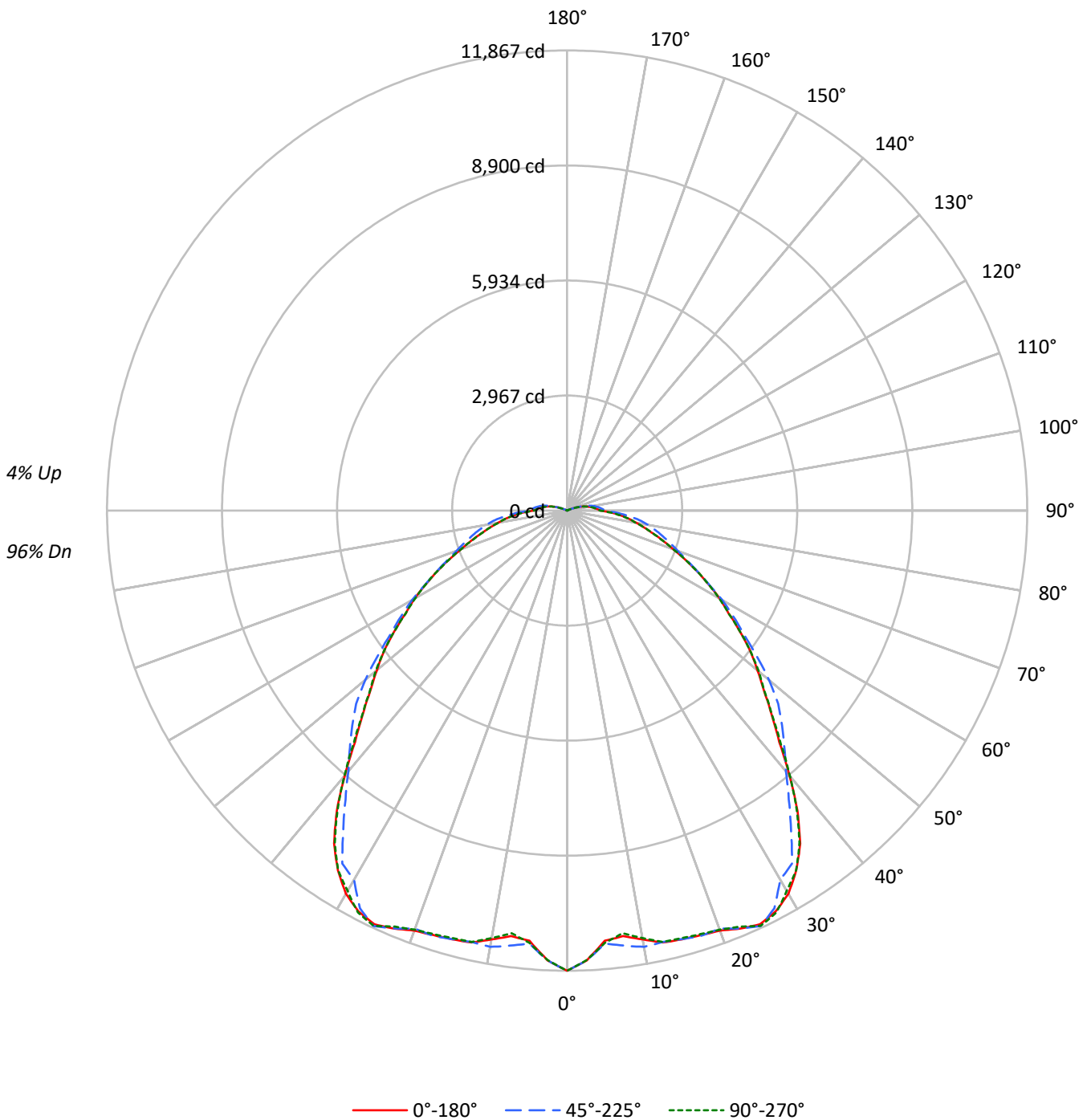
Input Watts (W): 243
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	96
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	86	83	81	79
2	97	89	82	76	94	87	80	75	82	77	72	79	74	70	75	71	68	66
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	55
4	81	69	61	54	79	68	60	53	65	58	52	62	56	51	59	54	50	48
5	75	62	53	46	73	61	52	46	58	51	45	56	49	44	54	48	44	41
6	69	56	47	41	67	55	46	40	53	45	40	51	44	39	49	43	38	36
7	64	51	42	36	62	50	42	36	48	41	35	46	40	35	45	39	34	32
8	60	46	38	32	58	46	37	32	44	37	31	42	36	31	41	35	31	29
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	91482	91482	91482
5°	85287	85832	85676
10°	86090	87582	85834
15°	88516	88483	88280
20°	90627	90193	90410
25°	94857	95254	95184
30°	95026	91518	94312
35°	91030	87422	90727
40°	81644	80289	81777
45°	72657	76308	72870
50°	67285	71357	67667
55°	62512	63846	62562
60°	58086	58977	57845
65°	53645	53792	53603
70°	49331	51451	49504
75°	47229	52587	47379
80°	47795	56140	47374
85°	51241	59176	51024



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1077.9	3.0
10°-20°	3249.4	9.0
20°-30°	5369.4	14.8
30°-40°	6390.6	17.6
40°-50°	5960.2	16.5
50°-60°	4966.8	13.7
60°-70°	3716.1	10.3
70°-80°	2580.1	7.1
80°-90°	1563.8	4.3
90°-100°	836.7	2.3
100°-110°	434.9	1.2
110°-120°	66.1	0.2
120°-130°	1.1	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°	9696.7	26.8
0°-40°	16087.3	44.4
0°-60°	27014.3	74.6
0°-90°	34874.2	96.3
90°-120°	1337.7	3.7
90°-150°	1338.8	3.7
90°-180°	1339.0	3.7
0°-180°	36213.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11867	11867	11867	11867	11867	
5°	11136	11219	11207	11191	11187	###
15°	11446	11524	11441	11498	11415	3243
25°	11772	11766	11822	11788	11813	5387
35°	10481	10310	10066	10316	10446	6472
45°	7460	7724	7835	7737	7482	5803
55°	5444	5530	5560	5534	5448	4876
65°	3694	3736	3704	3734	3691	3661
75°	2292	2423	2552	2427	2299	2454
85°	1370	1409	1582	1409	1364	1209
90°	866	924	969	916	853	500
95°	712	758	848	754	719	558
105°	399	407	455	402	402	418
115°	38	44	57	45	39	64
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



TEST NUMBER: P295516

CATALOG NUMBER: BMK-36-MCL-UNV-L840-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	11866.8	11866.8	11866.8	11866.8	11866.8
2.5°	11609.7	11619.8	11608.2	11577.7	11599.5
5°	11136.2	11219.0	11207.3	11191.4	11187.0
7.5°	11067.9	11192.8	11317.7	11181.2	10992.4
10°	11229.1	11354.0	11423.8	11343.9	11195.7
12.5°	11410.7	11404.9	11397.6	11391.8	11391.8
15°	11445.5	11524.0	11441.2	11497.8	11415.0
17.5°	11477.5	11534.1	11497.8	11525.4	11452.8
20°	11526.9	11585.0	11471.7	11557.4	11499.3
22.5°	11667.8	11709.9	11663.4	11705.5	11614.0
25°	11772.4	11766.5	11821.7	11788.3	11813.0
27.5°	11651.8	11615.5	11566.1	11554.5	11686.7
30°	11410.7	11216.1	10989.5	11173.9	11325.0
32.5°	10999.6	11009.8	10793.4	11022.9	10993.8
35°	10481.1	10309.7	10065.7	10315.5	10446.2
37.5°	9754.9	9625.6	9391.7	9624.1	9725.8
40°	8925.5	8947.3	8777.3	8942.9	8940.0
42.5°	8094.7	8308.2	8290.8	8273.3	8157.1
45°	7459.9	7724.3	7834.7	7737.4	7481.7
47.5°	6887.7	7256.6	7378.6	7259.5	6903.6
50°	6408.3	6652.4	6796.2	6650.9	6444.7
52.5°	5950.8	6036.5	6155.6	6062.7	5958.1
55°	5443.9	5529.6	5560.1	5534.0	5448.3
57.5°	4939.9	5075.0	5080.8	5064.8	4937.0
60°	4546.3	4601.5	4616.0	4620.3	4527.4
62.5°	4094.5	4170.1	4117.8	4170.1	4104.7
65°	3693.7	3735.8	3703.8	3734.3	3690.8
67.5°	3281.2	3397.4	3346.5	3391.5	3291.3
70°	2906.4	3054.6	3031.3	3057.5	2916.6
72.5°	2598.5	2729.2	2783.0	2719.0	2585.4
75°	2292.0	2422.7	2552.0	2427.1	2299.3
77.5°	2049.4	2148.2	2331.2	2156.9	2046.5
80°	1805.4	1896.9	2120.6	1889.7	1789.5
82.5°	1607.9	1650.0	1875.2	1658.7	1599.2
85°	1369.7	1408.9	1581.8	1408.9	1363.9
87.5°	1125.7	1154.7	1269.5	1169.2	1109.7
90°	865.7	923.8	968.8	916.5	852.6
92.5°	791.6	833.7	912.2	826.5	785.8
95°	711.7	758.2	848.2	753.8	719.0
97.5°	652.2	675.4	764.0	674.0	647.8
100°	578.1	601.3	691.4	594.1	569.4
102.5°	492.4	505.5	588.3	509.8	493.8
105°	399.4	406.7	454.6	402.3	402.3
107.5°	297.8	293.4	309.4	289.0	296.3
110°	191.7	178.7	193.2	178.7	194.6



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CATALOG NUMBER: BMK-36-MCL-UNV-L840-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	104.6	94.4	113.3	95.9	103.1
115°	37.8	43.6	56.6	45.0	39.2
117.5°	10.2	17.4	20.3	17.4	10.2
120°	8.7	10.2	8.7	10.2	8.7
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)