

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: P295483

Luminaire Tested: **BMK-12-MCL-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: P295483
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-12-MCL-UNV-L740-CD-U
Description: BENCHMARK Highbay LED Fixture
WITH MEDIUM CLEAR 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: 13161.0 lumens
Efficiency: N/A
Efficacy: 177.1 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

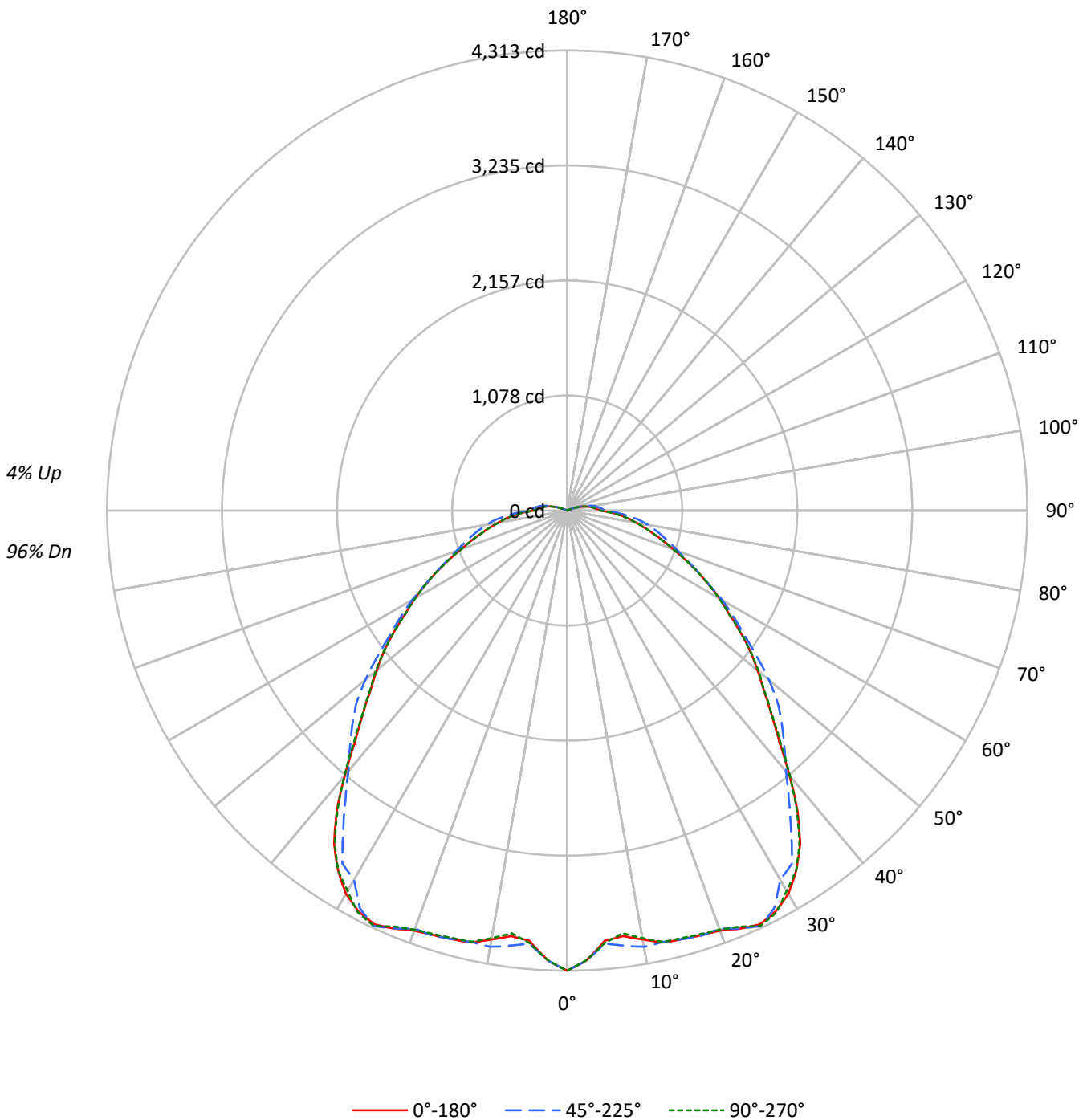
Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	33248	33248	33248
5°	30996	31194	31137
10°	31288	31830	31195
15°	32170	32157	32084
20°	32937	32779	32858
25°	34474	34618	34593
30°	34535	33260	34276
35°	33083	31772	32973
40°	29672	29180	29721
45°	26406	27733	26483
50°	24454	25933	24592
55°	22719	23203	22737
60°	21111	21434	21023
65°	19496	19550	19480
70°	17929	18700	17992
75°	17165	19112	17218
80°	17372	20403	17216
85°	18623	21507	18544



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	391.7	3.0
10°-20°	1180.9	9.0
20°-30°	1951.4	14.8
30°-40°	2322.6	17.6
40°-50°	2166.1	16.5
50°-60°	1805.1	13.7
60°-70°	1350.5	10.3
70°-80°	937.7	7.1
80°-90°	568.3	4.3
90°-100°	304.1	2.3
100°-110°	158.1	1.2
110°-120°	24.0	0.2
120°-130°	0.4	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°	3524.1	26.8
0°-40°	5846.7	44.4
0°-60°	9817.9	74.6
0°-90°	12674.4	96.3
90°-120°	486.2	3.7
90°-150°	486.6	3.7
90°-180°	487.0	3.7
0°-180°	13161.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4313	4313	4313	4313	4313	
5°	4047	4077	4073	4067	4066	389
15°	4160	4188	4158	4179	4149	1179
25°	4278	4276	4296	4284	4293	1958
35°	3809	3747	3658	3749	3796	2352
45°	2711	2807	2847	2812	2719	2109
55°	1978	2010	2021	2011	1980	1772
65°	1342	1358	1346	1357	1341	1331
75°	833	880	928	882	836	892
85°	498	512	575	512	496	440
90°	315	336	352	333	310	182
95°	259	276	308	274	261	203
105°	145	148	165	146	146	152
115°	14	16	21	16	14	23
125°	0	0	0	0	0	0
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°	4312.8	4312.8	4312.8	4312.8	4312.8
2.5°	4219.3	4223.0	4218.8	4207.7	4215.6
5°	4047.3	4077.3	4073.1	4067.3	4065.7
7.5°	4022.4	4067.8	4113.2	4063.6	3995.0
10°	4081.0	4126.4	4151.8	4122.7	4068.9
12.5°	4147.0	4144.9	4142.3	4140.2	4140.2
15°	4159.7	4188.2	4158.1	4178.7	4148.6
17.5°	4171.3	4191.9	4178.7	4188.7	4162.3
20°	4189.3	4210.4	4169.2	4200.3	4179.2
22.5°	4240.5	4255.8	4238.9	4254.2	4220.9
25°	4278.5	4276.4	4296.4	4284.3	4293.2
27.5°	4234.6	4221.5	4203.5	4199.3	4247.3
30°	4147.0	4076.3	3993.9	4061.0	4115.9
32.5°	3997.6	4001.3	3922.7	4006.1	3995.5
35°	3809.2	3746.9	3658.2	3749.0	3796.5
37.5°	3545.2	3498.3	3413.3	3497.7	3534.7
40°	3243.8	3251.7	3190.0	3250.2	3249.1
42.5°	2941.9	3019.5	3013.1	3006.8	2964.6
45°	2711.2	2807.3	2847.4	2812.0	2719.1
47.5°	2503.2	2637.3	2681.6	2638.3	2509.0
50°	2329.0	2417.7	2469.9	2417.2	2342.2
52.5°	2162.7	2193.9	2237.2	2203.4	2165.4
55°	1978.5	2009.6	2020.7	2011.2	1980.1
57.5°	1795.3	1844.4	1846.5	1840.7	1794.3
60°	1652.3	1672.3	1677.6	1679.2	1645.4
62.5°	1488.1	1515.5	1496.5	1515.5	1491.8
65°	1342.4	1357.7	1346.1	1357.2	1341.3
67.5°	1192.5	1234.7	1216.2	1232.6	1196.2
70°	1056.3	1110.1	1101.7	1111.2	1060.0
72.5°	944.4	991.9	1011.4	988.2	939.6
75°	833.0	880.5	927.5	882.1	835.6
77.5°	744.8	780.7	847.2	783.9	743.8
80°	656.2	689.4	770.7	686.8	650.3
82.5°	584.4	599.7	681.5	602.8	581.2
85°	497.8	512.0	574.9	512.0	495.7
87.5°	409.1	419.7	461.4	424.9	403.3
90°	314.6	335.7	352.1	333.1	309.9
92.5°	287.7	303.0	331.5	300.4	285.6
95°	258.7	275.6	308.3	274.0	261.3
97.5°	237.0	245.5	277.7	244.9	235.4
100°	210.1	218.5	251.3	215.9	206.9
102.5°	179.0	183.7	213.8	185.3	179.5
105°	145.2	147.8	165.2	146.2	146.2
107.5°	108.2	106.6	112.4	105.0	107.7
110°	69.7	64.9	70.2	64.9	70.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	38.0	34.3	41.2	34.8	37.5
115°	13.7	15.8	20.6	16.4	14.3
117.5°	3.7	6.3	7.4	6.3	3.7
120°	3.2	3.7	3.2	3.7	3.2
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)