

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: P295513

Luminaire Tested: **BMK-36-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: P295513  
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-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: 38892.0 lumens  
Efficiency: N/A  
Efficacy: 160.0 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

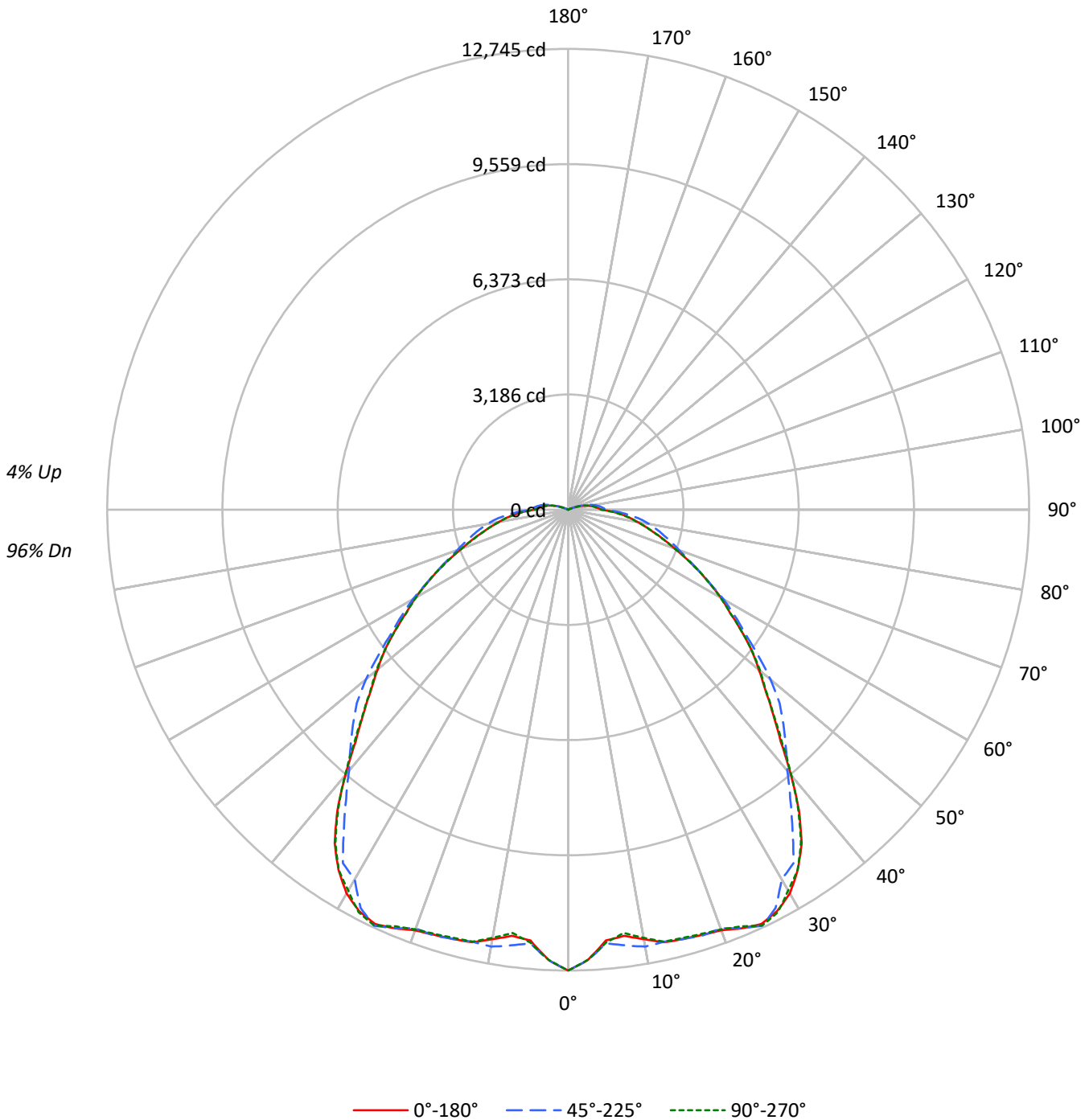
Input Watts (W): 243  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	96	
1	107	102	97	93	104	99	95	91	94	91	88	90	87	84	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	66	
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	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	48	
5	75	62	53	46	73	61	52	46	58	51	45	56	49	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	36	
7	64	51	42	36	62	50	42	36	48	41	35	46	40	35	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	29	
9	56	43	34	29	54	42	34	29	40	33	28	39	33	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	23	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	98250	98250	98250
5°	91596	92181	92015
10°	92458	94061	92184
15°	95065	95028	94811
20°	97332	96866	97099
25°	101874	102301	102225
30°	102055	98289	101289
35°	97764	93889	97439
40°	87684	86229	87827
45°	78033	81953	78260
50°	72262	76635	72672
55°	67136	68569	67190
60°	62383	63340	62124
65°	57613	57772	57568
70°	52981	55258	53166
75°	50724	56477	50885
80°	51332	60293	50877
85°	55031	63553	54799



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1157.6	3.0
10°-20°	3489.8	9.0
20°-30°	5766.7	14.8
30°-40°	6863.4	17.6
40°-50°	6401.1	16.5
50°-60°	5334.2	13.7
60°-70°	3991.0	10.3
70°-80°	2770.9	7.1
80°-90°	1679.4	4.3
90°-100°	898.6	2.3
100°-110°	467.1	1.2
110°-120°	70.9	0.2
120°-130°	1.2	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°	10414.0	26.8
0°-40°	17277.4	44.4
0°-60°	29012.8	74.6
0°-90°	37454.1	96.3
90°-120°	1436.7	3.7
90°-150°	1437.9	3.7
90°-180°	1438.0	3.7
0°-180°	38892.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	12745	12745	12745	12745	12745	
5°	11960	12049	12036	12019	12015	###
15°	12292	12376	12288	12348	12260	3483
25°	12643	12637	12696	12660	12687	5785
35°	11256	11072	10810	11079	11219	6951
45°	8012	8296	8414	8310	8035	6233
55°	5847	5939	5971	5943	5851	5236
65°	3967	4012	3978	4011	3964	3932
75°	2462	2602	2741	2607	2469	2636
85°	1471	1513	1699	1513	1465	1299
90°	930	992	1040	984	916	537
95°	764	814	911	810	772	599
105°	429	437	488	432	432	449
115°	41	47	61	48	42	69
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°	12744.7	12744.7	12744.7	12744.7	12744.7
2.5°	12468.5	12479.5	12467.0	12434.2	12457.6
5°	11960.0	12048.9	12036.4	12019.3	12014.6
7.5°	11886.7	12020.8	12155.0	12008.4	11805.6
10°	12059.8	12194.0	12268.9	12183.1	12024.0
12.5°	12254.8	12248.6	12240.8	12234.6	12234.6
15°	12292.3	12376.5	12287.6	12348.4	12259.5
17.5°	12326.6	12387.4	12348.4	12378.1	12300.1
20°	12379.6	12442.0	12320.4	12412.4	12350.0
22.5°	12530.9	12576.2	12526.3	12571.5	12473.2
25°	12643.3	12637.0	12696.3	12660.4	12686.9
27.5°	12513.8	12474.8	12421.7	12409.3	12551.2
30°	12254.8	12045.8	11802.5	12000.6	12162.8
32.5°	11813.4	11824.3	11591.9	11838.3	11807.1
35°	11256.5	11072.4	10810.3	11078.6	11219.0
37.5°	10476.5	10337.7	10086.5	10336.1	10445.3
40°	9585.8	9609.2	9426.7	9604.5	9601.4
42.5°	8693.5	8922.8	8904.1	8885.4	8760.6
45°	8011.8	8295.7	8414.3	8309.8	8035.2
47.5°	7397.2	7793.4	7924.5	7796.5	7414.4
50°	6882.4	7144.5	7298.9	7142.9	6921.4
52.5°	6391.0	6483.1	6611.0	6511.2	6398.8
55°	5846.6	5938.7	5971.4	5943.3	5851.3
57.5°	5305.3	5450.4	5456.6	5439.5	5302.2
60°	4882.6	4941.9	4957.5	4962.1	4862.3
62.5°	4397.5	4478.6	4422.4	4478.6	4408.4
65°	3966.9	4012.1	3977.8	4010.6	3963.8
67.5°	3523.9	3648.7	3594.1	3642.4	3534.8
70°	3121.4	3280.5	3255.6	3283.7	3132.3
72.5°	2790.7	2931.1	2988.8	2920.2	2776.7
75°	2461.6	2602.0	2740.8	2606.6	2469.4
77.5°	2201.1	2307.1	2503.7	2316.5	2197.9
80°	1939.0	2037.3	2277.5	2029.5	1921.8
82.5°	1726.8	1772.1	2013.9	1781.4	1717.5
85°	1471.0	1513.1	1698.8	1513.1	1464.8
87.5°	1208.9	1240.1	1363.4	1255.7	1191.8
90°	929.7	992.1	1040.5	984.3	915.7
92.5°	850.2	895.4	979.6	887.6	843.9
95°	764.4	814.3	911.0	809.6	772.2
97.5°	700.4	725.4	820.5	723.8	695.7
100°	620.9	645.8	742.5	638.0	611.5
102.5°	528.8	542.9	631.8	547.5	530.4
105°	429.0	436.8	488.3	432.1	432.1
107.5°	319.8	315.1	332.3	310.4	318.2
110°	205.9	191.9	207.5	191.9	209.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	112.3	101.4	121.7	103.0	110.8
115°	40.6	46.8	60.8	48.4	42.1
117.5°	10.9	18.7	21.8	18.7	10.9
120°	9.4	10.9	9.4	10.9	9.4
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)