

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: P295477

Luminaire Tested: **BMK-36-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: P295477  
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-36-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: 37926.0 lumens  
Efficiency: N/A  
Efficacy: 156.1 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

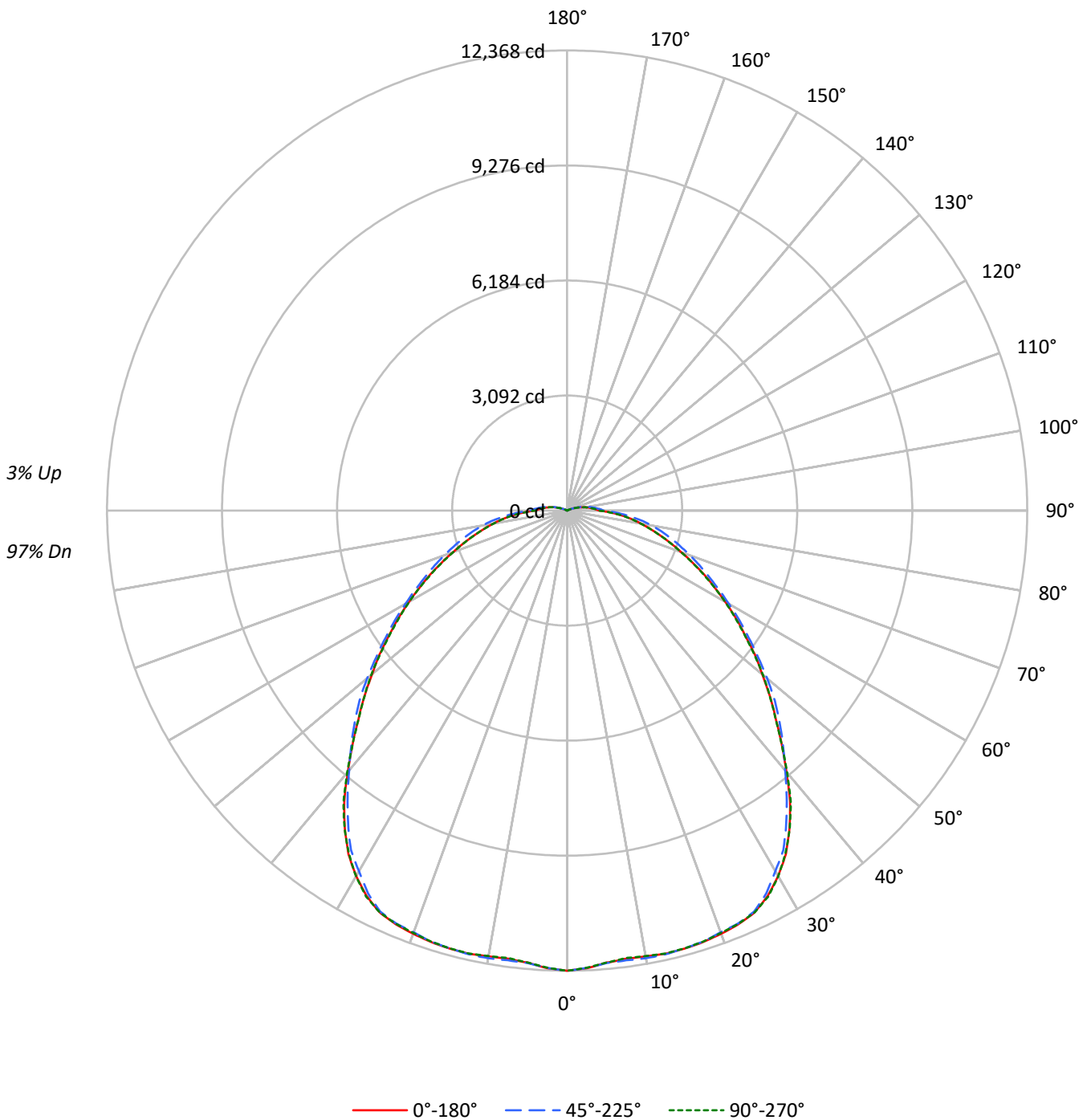
Input Watts (W): 243  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	95348	95348	95348
5°	93408	93467	93395
10°	93266	93662	93219
15°	94264	94191	94203
20°	95155	94836	94996
25°	96034	95820	96008
30°	94442	93193	94533
35°	90478	89162	90613
40°	83849	83391	84149
45°	77307	78737	77215
50°	71843	73680	72188
55°	66985	68402	66806
60°	62680	64097	62620
65°	58887	60996	58546
70°	55247	59541	55194
75°	53456	59539	53392
80°	53421	60947	53296
85°	55098	62169	54922



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1164.5	3.1
10°-20°	3448.5	9.1
20°-30°	5454.3	14.4
30°-40°	6450.8	17.0
40°-50°	6200.8	16.3
50°-60°	5298.8	14.0
60°-70°	4111.3	10.8
70°-80°	2900.1	7.6
80°-90°	1679.0	4.4
90°-100°	788.4	2.1
100°-110°	363.0	1.0
110°-120°	65.4	0.2
120°-130°	1.0	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°	10067.3	26.5
0°-40°	16518.2	43.6
0°-60°	28017.8	73.9
0°-90°	36708.2	96.8
90°-120°	1216.8	3.2
90°-150°	1217.8	3.2
90°-180°	1218.0	3.2
0°-180°	37926.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	12368	12368	12368	12368	12368	
5°	12196	12200	12204	12187	12195	###
15°	12189	12201	12179	12187	12181	3449
25°	11918	11889	11892	11887	11915	5469
35°	10418	10349	10266	10361	10433	6484
45°	7937	8045	8084	8026	7928	6146
55°	5834	5915	5957	5921	5818	5241
65°	4055	4144	4200	4136	4031	4021
75°	2594	2722	2889	2732	2591	2759
85°	1473	1528	1662	1528	1468	1308
90°	862	945	989	942	859	500
95°	675	711	775	709	678	517
105°	330	334	359	336	328	350
115°	39	50	66	50	39	57
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°	12368.3	12368.3	12368.3	12368.3	12368.3
2.5°	12308.9	12296.4	12301.1	12287.1	12296.4
5°	12196.5	12199.6	12204.3	12187.1	12194.9
7.5°	12148.1	12163.7	12191.8	12155.9	12127.8
10°	12165.2	12191.8	12216.8	12177.7	12159.0
12.5°	12198.0	12205.8	12215.2	12196.5	12194.9
15°	12188.7	12201.2	12179.3	12187.1	12180.9
17.5°	12159.0	12163.7	12148.1	12155.9	12146.5
20°	12102.8	12095.0	12062.2	12087.1	12082.5
22.5°	12035.6	12024.7	12015.3	12029.4	12021.5
25°	11918.5	11888.8	11891.9	11887.2	11915.3
27.5°	11674.8	11626.4	11593.6	11617.0	11698.2
30°	11340.6	11275.0	11190.6	11270.3	11351.5
32.5°	10943.9	10893.9	10817.4	10889.2	10923.6
35°	10417.5	10348.8	10266.0	10361.3	10433.1
37.5°	9844.3	9802.2	9694.4	9797.5	9874.0
40°	9166.5	9175.9	9116.5	9197.7	9199.3
42.5°	8535.5	8599.5	8594.9	8594.9	8535.5
45°	7937.3	8045.1	8084.1	8026.3	7927.9
47.5°	7393.8	7501.6	7568.7	7492.2	7389.1
50°	6842.5	6956.5	7017.4	6942.4	6875.3
52.5°	6355.2	6406.7	6466.1	6400.5	6328.6
55°	5833.5	5914.7	5956.9	5921.0	5817.9
57.5°	5379.0	5436.8	5486.8	5450.9	5347.8
60°	4905.8	4969.8	5016.7	4988.5	4901.1
62.5°	4465.3	4559.0	4593.4	4548.1	4454.4
65°	4054.6	4143.6	4199.8	4135.8	4031.1
67.5°	3645.4	3762.5	3851.5	3775.0	3632.9
70°	3254.9	3409.5	3507.9	3390.8	3251.8
72.5°	2923.8	3062.8	3189.3	3058.1	2911.3
75°	2594.2	2722.3	2889.4	2731.7	2591.1
77.5°	2295.9	2417.7	2600.5	2413.1	2281.9
80°	2017.9	2114.7	2302.2	2108.5	2013.2
82.5°	1746.1	1818.0	2000.7	1814.9	1739.9
85°	1472.8	1527.5	1661.8	1527.5	1468.1
87.5°	1152.6	1241.7	1318.2	1238.5	1135.5
90°	862.1	944.9	988.6	941.8	859.0
92.5°	768.4	810.6	880.9	810.6	768.4
95°	674.7	710.6	774.7	709.1	677.8
97.5°	585.7	613.8	674.7	610.7	588.8
100°	504.5	518.5	574.8	521.7	501.4
102.5°	417.0	426.4	467.0	423.3	417.0
105°	329.5	334.2	359.2	335.8	328.0
107.5°	240.5	245.2	257.7	243.6	239.0
110°	159.3	162.4	178.1	162.4	160.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	92.1	100.0	115.6	100.0	92.1
115°	39.0	50.0	65.6	50.0	39.0
117.5°	12.5	20.3	25.0	20.3	10.9
120°	7.8	9.4	7.8	9.4	7.8
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)