

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: P295460

Luminaire Tested: **BMK-18-MFL-UNV-L750-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: P295460  
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-18-MFL-UNV-L750-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH MEDIUM FROSTED LENS  
Light Source: (528) 70 CRI 5000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19530.0 lumens  
Efficiency: N/A  
Efficacy: 171.6 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

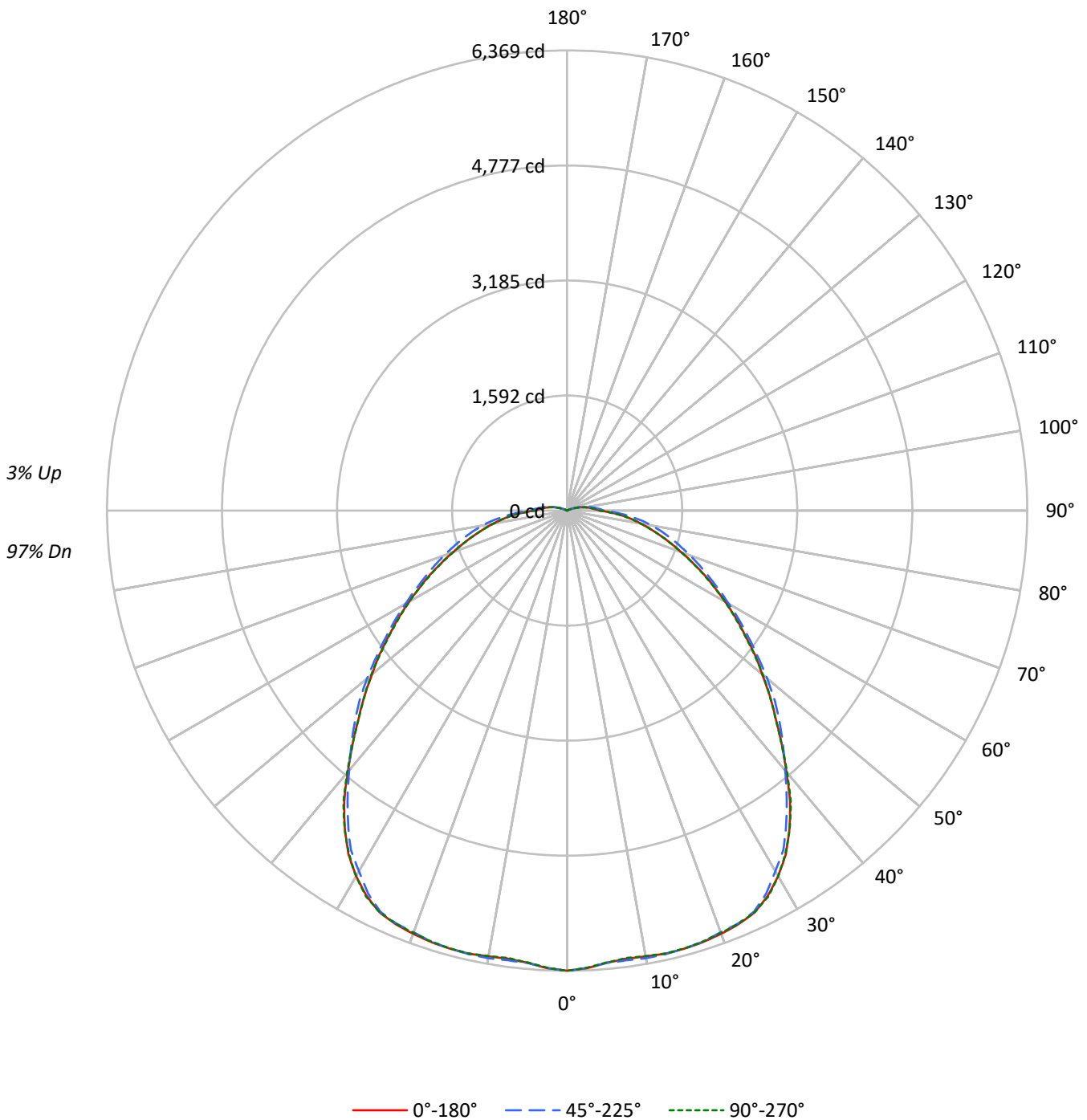
Input Watts (W): 113.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	97		
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	81	75	94	86	80	74	82	77	72	78	74	70	75	71	68	75	71	68	75	71	68	65		
3	89	78	69	63	86	76	68	62	72	66	60	69	64	59	66	62	58	66	62	58	66	62	58	55		
4	81	69	60	53	79	67	59	53	64	57	52	62	56	51	59	54	49	59	54	49	59	54	49	47		
5	75	62	53	46	72	60	52	45	58	50	45	56	49	44	53	48	43	53	48	43	53	48	43	41		
6	69	56	47	40	67	54	46	40	52	45	39	50	44	39	48	43	38	48	43	38	48	43	38	36		
7	64	50	42	35	62	49	41	35	48	40	35	46	39	34	44	38	34	44	38	34	44	38	34	32		
8	60	46	38	32	58	45	37	31	44	36	31	42	36	31	41	35	30	41	35	30	41	35	30	28		
9	56	42	34	28	54	42	34	28	40	33	28	39	32	28	38	32	27	38	32	27	38	32	27	26		
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	35	29	25	35	29	25	23		

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

	0°	45°	90°
0°	49099	49099	49099
5°	48100	48131	48094
10°	48028	48231	48003
15°	48541	48503	48510
20°	49000	48836	48918
25°	49452	49342	49439
30°	48633	47990	48680
35°	46591	45914	46662
40°	43178	42942	43333
45°	39809	40545	39762
50°	36995	37941	37173
55°	34495	35224	34402
60°	32276	33006	32246
65°	30324	31410	30148
70°	28449	30661	28422
75°	27528	30660	27495
80°	27509	31384	27445
85°	28372	32012	28282



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	599.7	3.1
10°-20°	1775.8	9.1
20°-30°	2808.7	14.4
30°-40°	3321.9	17.0
40°-50°	3193.1	16.3
50°-60°	2728.6	14.0
60°-70°	2117.1	10.8
70°-80°	1493.4	7.6
80°-90°	864.6	4.4
90°-100°	406.0	2.1
100°-110°	186.9	1.0
110°-120°	33.7	0.2
120°-130°	0.5	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°	5184.2	26.5
0°-40°	8506.0	43.6
0°-60°	14427.7	73.9
0°-90°	18902.8	96.8
90°-120°	626.6	3.2
90°-150°	627.1	3.2
90°-180°	627.0	3.2
0°-180°	19530.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6369	6369	6369	6369	6369	
5°	6281	6282	6285	6276	6280	599
15°	6277	6283	6272	6276	6272	1776
25°	6137	6122	6124	6121	6136	2816
35°	5364	5329	5286	5336	5373	3339
45°	4087	4143	4163	4133	4082	3165
55°	3004	3046	3068	3049	2996	2699
65°	2088	2134	2163	2130	2076	2071
75°	1336	1402	1488	1407	1334	1421
85°	758	787	856	787	756	673
90°	444	487	509	485	442	257
95°	347	366	399	365	349	266
105°	170	172	185	173	169	180
115°	20	26	34	26	20	30
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



TEST NUMBER: P295460

CATALOG NUMBER: BMK-18-MFL-UNV-L750-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6369.0	6369.0	6369.0	6369.0	6369.0
2.5°	6338.5	6332.0	6334.5	6327.2	6332.0
5°	6280.6	6282.2	6284.6	6275.8	6279.8
7.5°	6255.6	6263.7	6278.2	6259.7	6245.2
10°	6264.5	6278.2	6291.0	6270.9	6261.3
12.5°	6281.4	6285.4	6290.2	6280.6	6279.8
15°	6276.6	6283.0	6271.7	6275.8	6272.5
17.5°	6261.3	6263.7	6255.6	6259.7	6254.8
20°	6232.3	6228.3	6211.4	6224.3	6221.9
22.5°	6197.7	6192.1	6187.3	6194.5	6190.5
25°	6137.4	6122.1	6123.7	6121.3	6135.8
27.5°	6011.9	5987.0	5970.1	5982.2	6024.0
30°	5839.8	5806.1	5762.6	5803.6	5845.5
32.5°	5635.5	5609.8	5570.4	5607.4	5625.1
35°	5364.5	5329.1	5286.5	5335.6	5372.6
37.5°	5069.3	5047.6	4992.1	5045.2	5084.6
40°	4720.3	4725.1	4694.5	4736.4	4737.2
42.5°	4395.4	4428.3	4425.9	4425.9	4395.4
45°	4087.3	4142.8	4162.9	4133.2	4082.5
47.5°	3807.4	3862.9	3897.5	3858.1	3805.0
50°	3523.5	3582.2	3613.6	3575.0	3540.4
52.5°	3272.6	3299.1	3329.7	3295.9	3258.9
55°	3004.0	3045.8	3067.5	3049.0	2995.9
57.5°	2769.9	2799.7	2825.4	2806.9	2753.8
60°	2526.2	2559.2	2583.3	2568.9	2523.8
62.5°	2299.4	2347.7	2365.4	2342.0	2293.8
65°	2087.9	2133.7	2162.7	2129.7	2075.8
67.5°	1877.2	1937.5	1983.3	1943.9	1870.7
70°	1676.1	1755.7	1806.4	1746.1	1674.5
72.5°	1505.6	1577.2	1642.3	1574.8	1499.2
75°	1335.9	1401.8	1487.9	1406.7	1334.3
77.5°	1182.3	1245.0	1339.1	1242.6	1175.0
80°	1039.1	1089.0	1185.5	1085.8	1036.7
82.5°	899.2	936.2	1030.3	934.6	896.0
85°	758.4	786.6	855.7	786.6	756.0
87.5°	593.6	639.4	678.8	637.8	584.7
90°	444.0	486.6	509.1	485.0	442.4
92.5°	395.7	417.4	453.6	417.4	395.7
95°	347.4	365.9	398.9	365.1	349.1
97.5°	301.6	316.1	347.4	314.5	303.2
100°	259.8	267.0	296.0	268.6	258.2
102.5°	214.7	219.6	240.5	218.0	214.7
105°	169.7	172.1	185.0	172.9	168.9
107.5°	123.9	126.3	132.7	125.5	123.1
110°	82.0	83.6	91.7	83.6	82.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	47.5	51.5	59.5	51.5	47.5
115°	20.1	25.7	33.8	25.7	20.1
117.5°	6.4	10.5	12.9	10.5	5.6
120°	4.0	4.8	4.0	4.8	4.0
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)