

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: P295466

Luminaire Tested: **BMK-24-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: P295466  
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-24-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**

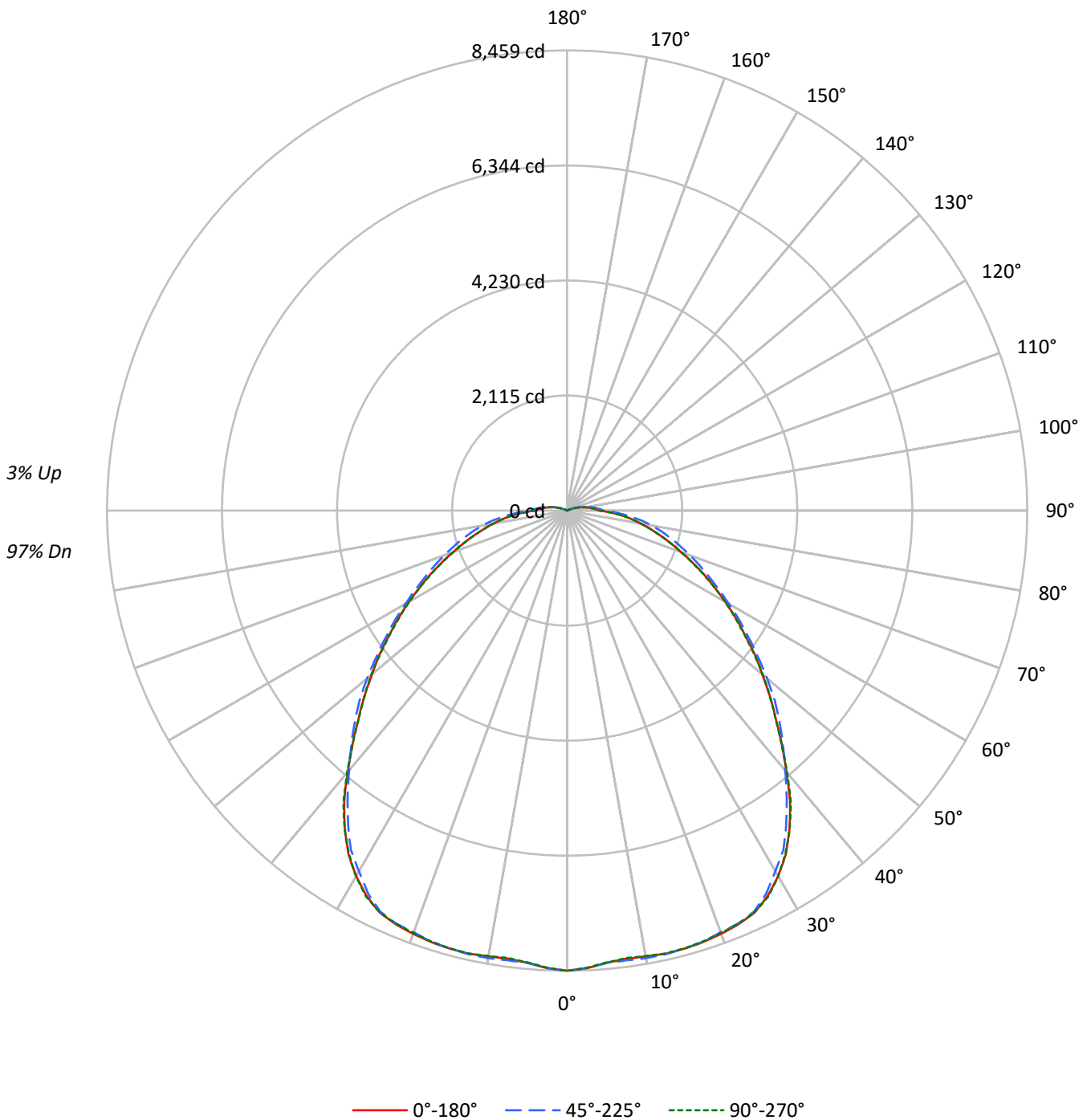
Lumens per Lamp: N/A  
Luminaire Lumens: 25939.0 lumens  
Efficiency: N/A  
Efficacy: 166.8 lumens/watt  
Spacing Criteria (0/90/45): 1.33 / 1.33 / 1.36  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct  
  
Input Watts (W): 155.5  
Input Voltage (V): 120  
Input Current (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°	65212	65212	65212
5°	63885	63926	63877
10°	63789	64059	63756
15°	64470	64421	64429
20°	65080	64862	64971
25°	65681	65534	65663
30°	64592	63738	64654
35°	61881	60981	61974
40°	57347	57034	57552
45°	52873	53851	52811
50°	49136	50392	49371
55°	45813	46782	45691
60°	42868	43838	42827
65°	40275	41717	40041
70°	37784	40722	37749
75°	36561	40722	36518
80°	36536	41682	36451
85°	37684	42521	37564



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	796.5	3.1
10°-20°	2358.6	9.1
20°-30°	3730.4	14.4
30°-40°	4412.0	17.0
40°-50°	4241.0	16.3
50°-60°	3624.0	14.0
60°-70°	2811.9	10.8
70°-80°	1983.5	7.6
80°-90°	1148.3	4.4
90°-100°	539.3	2.1
100°-110°	248.3	1.0
110°-120°	44.7	0.2
120°-130°	0.7	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°	6885.4	26.5
0°-40°	11297.4	43.6
0°-60°	19162.4	73.9
0°-90°	25106.1	96.8
90°-120°	832.3	3.2
90°-150°	832.9	3.2
90°-180°	833.0	3.2
0°-180°	25939.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8459	8459	8459	8459	8459	
5°	8342	8344	8347	8335	8341	796
15°	8336	8345	8330	8335	8331	2359
25°	8152	8131	8133	8130	8149	3741
35°	7125	7078	7021	7086	7136	4435
45°	5429	5502	5529	5490	5422	4204
55°	3990	4045	4074	4050	3979	3585
65°	2773	2834	2872	2829	2757	2750
75°	1774	1862	1976	1868	1772	1887
85°	1007	1045	1137	1045	1004	894
90°	590	646	676	644	588	342
95°	462	486	530	485	464	353
105°	225	229	246	230	224	240
115°	27	34	45	34	27	39
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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CATALOG NUMBER: BMK-24-MFL-UNV-L750-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8459.1	8459.1	8459.1	8459.1	8459.1
2.5°	8418.5	8410.0	8413.2	8403.6	8410.0
5°	8341.6	8343.8	8347.0	8335.2	8340.6
7.5°	8308.5	8319.2	8338.4	8313.8	8294.6
10°	8320.3	8338.4	8355.5	8328.8	8316.0
12.5°	8342.7	8348.0	8354.4	8341.6	8340.6
15°	8336.3	8344.8	8329.9	8335.2	8330.9
17.5°	8316.0	8319.2	8308.5	8313.8	8307.4
20°	8277.5	8272.2	8249.8	8266.8	8263.6
22.5°	8231.6	8224.1	8217.7	8227.3	8222.0
25°	8151.5	8131.2	8133.3	8130.1	8149.3
27.5°	7984.8	7951.7	7929.3	7945.3	8000.9
30°	7756.2	7711.4	7653.7	7708.2	7763.7
32.5°	7484.9	7450.7	7398.4	7447.5	7471.0
35°	7124.9	7077.9	7021.3	7086.5	7135.6
37.5°	6732.9	6704.1	6630.4	6700.9	6753.2
40°	6269.3	6275.7	6235.1	6290.7	6291.7
42.5°	5837.7	5881.5	5878.3	5878.3	5837.7
45°	5428.6	5502.3	5529.0	5489.5	5422.2
47.5°	5056.9	5130.6	5176.5	5124.2	5053.7
50°	4679.8	4757.8	4799.4	4748.2	4702.2
52.5°	4346.5	4381.8	4422.4	4377.5	4328.4
55°	3989.7	4045.3	4074.1	4049.6	3979.1
57.5°	3678.9	3718.4	3752.6	3728.0	3657.5
60°	3355.2	3399.0	3431.1	3411.9	3352.0
62.5°	3054.0	3118.1	3141.6	3110.6	3046.5
65°	2773.1	2834.0	2872.4	2828.6	2757.0
67.5°	2493.2	2573.3	2634.2	2581.9	2484.6
70°	2226.1	2331.9	2399.2	2319.1	2224.0
72.5°	1999.7	2094.8	2181.3	2091.5	1991.1
75°	1774.3	1861.9	1976.2	1868.3	1772.2
77.5°	1570.3	1653.6	1778.6	1650.4	1560.6
80°	1380.1	1446.4	1574.5	1442.1	1376.9
82.5°	1194.3	1243.4	1368.4	1241.3	1190.0
85°	1007.3	1044.7	1136.6	1044.7	1004.1
87.5°	788.3	849.2	901.6	847.1	776.6
90°	589.6	646.3	676.2	644.1	587.5
92.5°	525.6	554.4	602.5	554.4	525.6
95°	461.5	486.0	529.8	485.0	463.6
97.5°	400.6	419.8	461.5	417.7	402.7
100°	345.0	354.6	393.1	356.8	342.9
102.5°	285.2	291.6	319.4	289.5	285.2
105°	225.4	228.6	245.7	229.7	224.3
107.5°	164.5	167.7	176.3	166.6	163.4
110°	109.0	111.1	121.8	111.1	110.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	63.0	68.4	79.0	68.4	63.0
115°	26.7	34.2	44.9	34.2	26.7
117.5°	8.5	13.9	17.1	13.9	7.5
120°	5.3	6.4	5.3	6.4	5.3
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)