

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: P294550

Luminaire Tested: **BMK-36-NFL-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: P294550  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-7)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-36-NFL-UNV-L750-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW FROSTED LENS  
Light Source: (528) 70 CRI 5000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

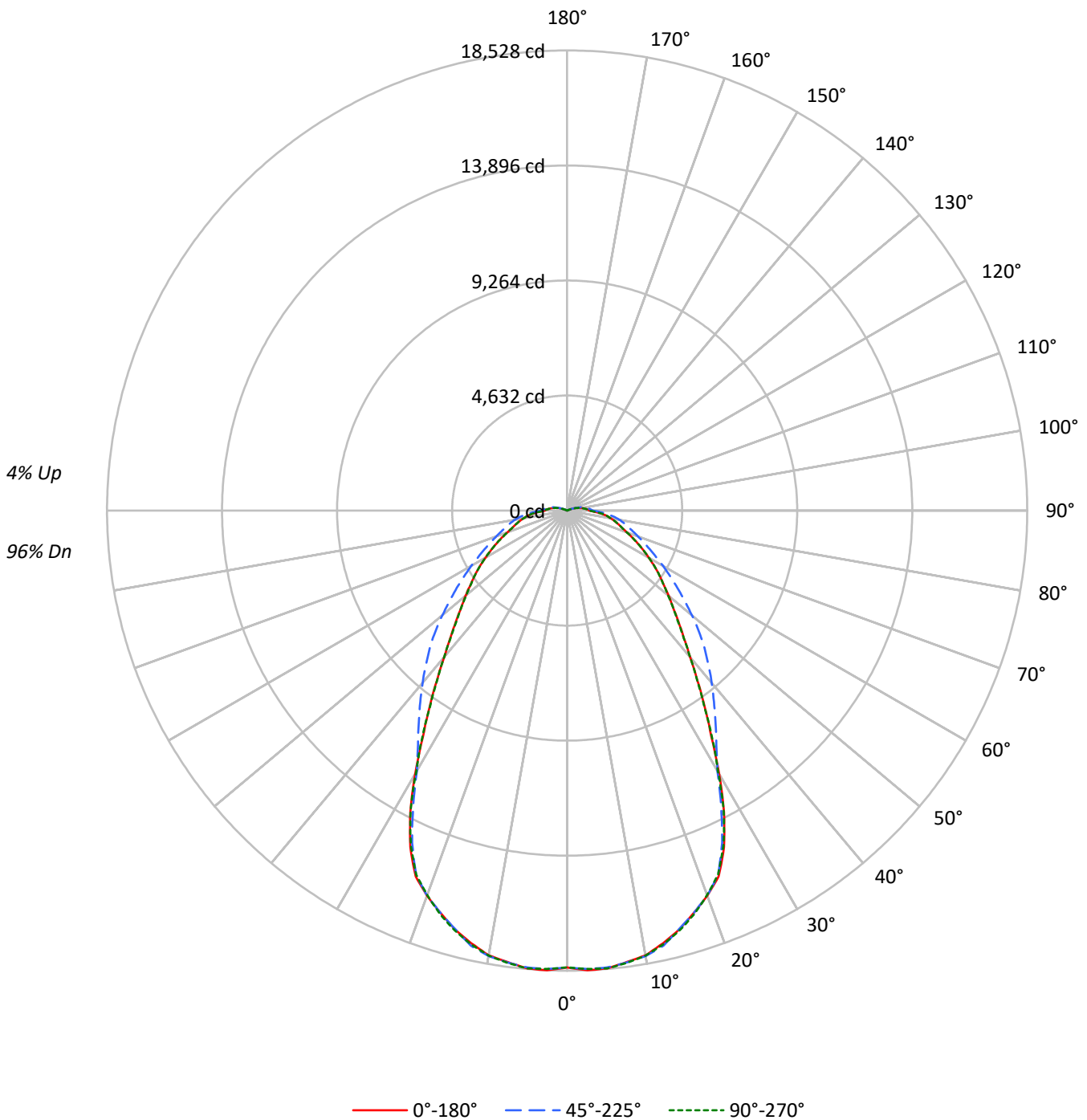
Lumens per Lamp: N/A  
Luminaire Lumens: 38531.0 lumens  
Efficiency: N/A  
Efficacy: 158.6 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

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	96
1	108	103	98	95	105	100	96	93	95	92	89	91	88	86	87	84	82	80
2	99	91	84	78	96	88	82	77	84	79	75	80	76	72	77	73	70	68
3	91	80	73	66	88	79	71	66	75	69	64	72	67	62	69	65	61	59
4	84	72	64	57	81	71	63	57	68	61	56	65	59	55	62	58	53	51
5	77	65	57	50	75	64	56	50	61	55	49	59	53	48	57	52	47	45
6	72	59	51	45	70	58	50	45	56	49	44	54	48	43	52	47	43	41
7	67	54	46	40	65	53	46	40	52	45	40	50	44	39	48	43	38	37
8	63	50	42	37	61	49	42	36	48	41	36	46	40	35	45	39	35	33
9	59	46	39	33	58	46	38	33	44	38	33	43	37	32	42	36	32	30
10	56	43	36	31	54	42	35	30	41	35	30	40	34	30	39	34	30	28

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

	0°	45°	90°
0°	141801	141801	141801
5°	141689	141441	141689
10°	139392	139649	139465
15°	134996	134842	135376
20°	129755	129648	129483
25°	120442	118966	119953
30°	101924	100686	101262
35°	83880	90468	83634
40°	70380	82860	70457
45°	61762	76151	61294
50°	56079	68811	55695
55°	52032	62208	52008
60°	48471	56972	48591
65°	45737	53107	45479
70°	43420	51428	43241
75°	43979	52453	44002
80°	47170	56698	47197
85°	51626	61450	52251



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1751.8	4.5
10°-20°	4907.5	12.7
20°-30°	6708.8	17.4
30°-40°	6301.3	16.4
40°-50°	5433.1	14.1
50°-60°	4457.8	11.6
60°-70°	3434.8	8.9
70°-80°	2516.7	6.5
80°-90°	1612.8	4.2
90°-100°	872.0	2.3
100°-110°	451.6	1.2
110°-120°	81.7	0.2
120°-130°	1.3	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°	13368.0	34.7
0°-40°	19669.3	51.0
0°-60°	29560.2	76.7
0°-90°	37124.4	96.3
90°-120°	1405.3	3.6
90°-150°	1406.6	3.7
90°-180°	1407.0	3.7
0°-180°	38531.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	18394	18394	18394	18394	18394	
5°	18501	18488	18468	18460	18501	###
15°	17456	17416	17436	17425	17505	4909
25°	14948	14783	14765	14726	14887	6761
35°	9658	10004	10416	9982	9630	6077
45°	6341	6962	7819	6940	6293	4930
55°	4531	4953	5418	4949	4529	4060
65°	3149	3501	3657	3493	3131	3125
75°	2134	2401	2546	2394	2135	2266
85°	1380	1479	1643	1474	1397	1207
90°	896	966	1033	977	894	515
95°	758	780	880	778	758	585
105°	409	414	483	416	411	427
115°	46	61	78	62	47	71
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



TEST NUMBER: P294550

CATALOG NUMBER: BMK-36-NFL-UNV-L750-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	18394.0	18394.0	18394.0	18394.0	18394.0
2.5°	18528.0	18493.4	18474.6	18453.7	18471.5
5°	18500.8	18488.2	18468.3	18460.0	18500.8
7.5°	18337.5	18326.0	18352.2	18308.2	18370.0
10°	18181.6	18144.0	18215.1	18067.6	18191.1
12.5°	17839.5	17865.7	17941.0	17836.4	17884.5
15°	17455.6	17415.8	17435.7	17425.2	17504.7
17.5°	16976.4	16951.3	16974.3	16947.1	17030.8
20°	16503.5	16472.1	16489.9	16474.2	16468.9
22.5°	15942.7	15842.2	15883.0	15771.1	15869.4
25°	14947.7	14783.4	14764.6	14725.9	14887.0
27.5°	13680.7	13517.5	13425.4	13465.2	13660.8
30°	12239.0	12229.6	12090.4	12181.4	12159.5
32.5°	10807.7	11082.9	11172.9	11077.6	10871.5
35°	9657.9	10004.2	10416.4	9982.2	9629.6
37.5°	8613.7	9105.5	9707.1	9060.5	8586.5
40°	7694.1	8292.5	9058.4	8251.7	7702.5
42.5°	6951.3	7583.2	8410.8	7572.7	6942.9
45°	6341.3	6961.7	7818.6	6939.7	6293.2
47.5°	5782.6	6407.2	7195.0	6395.7	5781.6
50°	5341.1	5852.7	6553.7	5851.6	5304.5
52.5°	4899.6	5382.9	5951.0	5392.3	4880.7
55°	4531.3	4952.9	5417.5	4948.7	4529.2
57.5°	4162.0	4564.8	4912.1	4559.5	4167.2
60°	3793.7	4185.0	4459.1	4173.5	3803.1
62.5°	3456.8	3838.7	4024.9	3818.8	3465.2
65°	3149.2	3500.7	3656.6	3493.4	3131.4
67.5°	2843.7	3190.0	3331.2	3193.1	2834.3
70°	2558.1	2912.7	3029.9	2908.6	2547.6
72.5°	2323.7	2657.5	2773.6	2648.0	2323.7
75°	2134.3	2401.1	2545.5	2393.8	2135.4
77.5°	1951.2	2168.9	2342.5	2162.6	1965.9
80°	1781.8	1950.2	2141.7	1931.4	1782.8
82.5°	1603.9	1713.7	1904.2	1705.4	1612.3
85°	1380.0	1479.4	1642.6	1474.2	1396.7
87.5°	1118.4	1232.5	1324.5	1232.5	1133.1
90°	895.6	965.7	1032.6	977.2	894.5
92.5°	848.5	871.5	958.4	874.7	850.6
95°	758.5	779.5	879.9	778.4	758.5
97.5°	673.8	693.7	795.1	690.5	669.6
100°	583.8	601.6	698.9	606.8	580.7
102.5°	502.2	515.8	598.5	516.8	501.2
105°	409.1	414.3	483.4	416.4	411.2
107.5°	303.4	309.7	345.3	313.9	308.6
110°	203.0	208.2	232.3	212.4	208.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	115.1	121.4	151.7	122.4	113.0
115°	46.0	60.7	78.5	61.7	47.1
117.5°	12.6	23.0	28.2	23.0	13.6
120°	10.5	11.5	10.5	11.5	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)