

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: P381683

Luminaire Tested: **BMK-60-NFL-UNV-L750-CD-U**

Issue Date: 2/4/2020

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: P381683  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-4)  
Test Lab: INNOVATIONS CENTER(G2)  
Issue Date: 2/4/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-60-NFL-UNV-L750-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW FROSTED LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

**Summary**

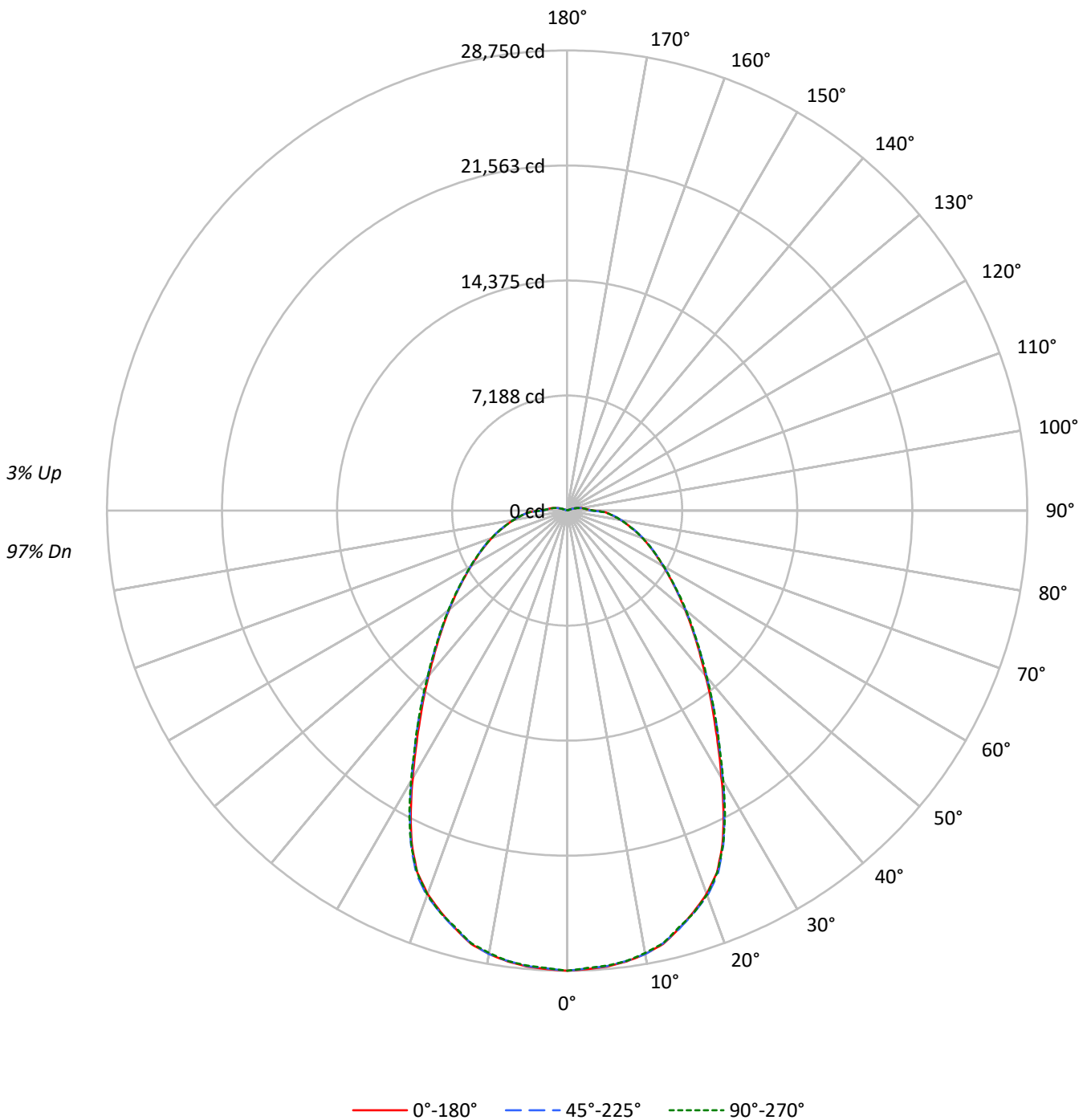
Lumens per Lamp: N/A  
Luminaire Lumens: 62509.1 lumens  
Efficiency: N/A  
Efficacy: 154.1 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.1  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 405.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	98	94	104	100	96	92	95	91	88	90	88	85	86	84	82	80
2	98	90	83	77	95	88	81	76	84	78	74	80	75	72	76	73	70	67
3	90	80	72	65	87	78	70	65	74	68	63	71	66	61	68	64	60	58
4	83	71	63	56	80	70	62	56	67	60	55	64	58	54	62	57	52	50
5	77	64	56	49	75	63	55	49	61	54	48	58	52	47	56	51	46	44
6	71	59	50	44	69	57	49	43	55	48	43	53	47	42	51	46	42	39
7	67	54	45	39	65	53	45	39	51	44	38	49	43	38	47	42	37	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	46	38	32	57	45	37	32	43	37	32	42	36	31	41	35	31	29
10	55	42	35	30	54	42	34	30	40	34	29	39	33	29	38	33	29	27

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

	0°	45°	90°
0°	221748	221748	221748
5°	219161	218851	218640
10°	215720	215820	215248
15°	209133	209296	208597
20°	200468	201405	200859
25°	185147	186054	185832
30°	160707	161852	162386
35°	139357	141084	141175
40°	122960	123978	124194
45°	110425	111203	111369
50°	100861	101370	101727
55°	93564	93970	94150
60°	88372	88856	89123
65°	85798	86349	86026
70°	85232	85655	85143
75°	85566	86456	85646
80°	90040	90837	89868
85°	101778	102414	101287



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2712.2	4.3
10°-20°	7605.6	12.2
20°-30°	10474.6	16.8
30°-40°	10157.8	16.3
40°-50°	8839.7	14.1
50°-60°	7353.4	11.8
60°-70°	5902.3	9.4
70°-80°	4430.5	7.1
80°-90°	2893.1	4.6
90°-100°	1306.9	2.1
100°-110°	620.2	1.0
110°-120°	99.5	0.2
120°-130°	27.7	0.0
130°-140°	30.7	0.0
140°-150°	26.8	0.0
150°-160°	15.5	0.0
160°-170°	9.4	0.0
170°-180°	3.2	0.0
0°-30°	20792.4	33.3
0°-40°	30950.2	49.5
0°-60°	47143.3	75.4
0°-90°	60369.2	96.6
90°-120°	2026.6	3.2
90°-150°	2111.8	3.4
90°-180°	2140.0	3.4
0°-180°	62509.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	28750	28750	28750	28750	28750	
5°	28602	28508	28562	28609	28534	###
15°	27029	26938	27050	27069	26959	7604
25°	22967	22966	23079	23117	23052	10441
35°	16038	16090	16236	16236	16247	10085
45°	11332	11379	11412	11429	11429	8789
55°	8144	8160	8180	8199	8195	7322
65°	5905	5922	5943	5946	5921	5871
75°	4151	4174	4194	4176	4155	4419
85°	2720	2743	2737	2701	2706	2360
90°	1660	1606	1473	1580	1616	963
95°	1188	1192	1188	1163	1171	913
105°	595	591	587	580	578	628
115°	71	69	69	67	65	102
125°	30	31	30	31	33	27
135°	39	41	39	41	41	30
145°	44	43	43	43	43	27
155°	31	33	31	31	31	15
165°	34	34	33	33	33	10
175°	33	34	33	34	34	3
180°	34	34	34	34	34	



TEST NUMBER: P381683

CATALOG NUMBER: BMK-60-NFL-UNV-L750-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	28750.1	28750.1	28750.1	28750.1	28750.1
2.5°	28678.2	28601.0	28629.8	28679.5	28604.9
5°	28602.3	28508.1	28561.8	28608.8	28534.3
7.5°	28415.2	28318.4	28385.2	28461.0	28385.2
10°	28123.5	28035.9	28136.6	28145.8	28062.0
12.5°	27731.1	27634.3	27689.2	27723.2	27691.8
15°	27028.6	26938.4	27049.6	27069.2	26959.3
17.5°	26286.9	26255.5	26337.9	26385.0	26343.2
20°	25485.0	25507.3	25604.1	25614.5	25534.7
22.5°	24462.1	24443.8	24583.7	24566.7	24494.8
25°	22966.9	22965.6	23079.4	23117.3	23051.9
27.5°	21156.4	21113.3	21276.8	21276.8	21356.6
30°	19288.4	19262.2	19425.8	19436.2	19489.9
32.5°	17569.5	17614.0	17739.6	17767.0	17763.1
35°	16037.7	16090.0	16236.5	16236.5	16247.0
37.5°	14698.2	14738.7	14826.4	14872.2	14852.5
40°	13435.8	13489.5	13547.0	13599.3	13570.6
42.5°	12321.3	12354.0	12441.6	12477.0	12440.3
45°	11332.3	11379.4	11412.1	11429.1	11429.1
47.5°	10429.7	10437.6	10495.1	10496.5	10514.8
50°	9601.7	9580.8	9650.1	9630.5	9684.1
52.5°	8843.0	8846.9	8875.7	8887.4	8924.1
55°	8144.4	8160.1	8179.7	8199.4	8195.4
57.5°	7502.1	7527.0	7554.5	7568.9	7546.6
60°	6913.5	6959.3	6951.4	6985.4	6972.3
62.5°	6386.3	6429.5	6433.4	6450.4	6432.1
65°	5904.9	5921.9	5942.8	5945.5	5920.6
67.5°	5449.7	5465.4	5495.5	5488.9	5456.2
70°	5019.3	5025.8	5044.2	5046.8	5014.1
72.5°	4591.5	4595.5	4608.5	4605.9	4583.7
75°	4150.7	4174.2	4193.9	4175.6	4154.6
77.5°	3780.5	3783.1	3797.5	3770.0	3774.0
80°	3399.8	3415.5	3429.9	3388.1	3393.3
82.5°	3059.7	3076.7	3085.9	3034.9	3041.4
85°	2719.6	2743.2	2736.6	2701.3	2706.5
87.5°	2376.9	2350.7	2332.4	2318.0	2324.6
90°	1660.0	1606.4	1473.0	1580.2	1615.5
92.5°	1331.7	1351.3	1333.0	1312.1	1331.7
95°	1187.8	1191.7	1187.8	1162.9	1170.8
97.5°	1047.8	1058.3	1047.8	1023.0	1032.1
100°	900.0	902.6	896.1	880.4	886.9
102.5°	752.2	754.8	745.6	735.2	737.8
105°	595.2	591.3	587.4	579.5	578.2
107.5°	429.1	429.1	422.5	414.7	419.9
110°	281.2	277.3	262.9	265.6	268.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	149.1	150.4	153.1	145.2	140.0
115°	70.6	69.3	69.3	66.7	65.4
117.5°	31.4	31.4	28.8	30.1	31.4
120°	24.9	26.2	24.9	24.9	27.5
122.5°	27.5	28.8	27.5	28.8	30.1
125°	30.1	31.4	30.1	31.4	32.7
127.5°	32.7	34.0	32.7	34.0	34.0
130°	35.3	36.6	35.3	35.3	36.6
132.5°	36.6	37.9	37.9	37.9	37.9
135°	39.2	40.6	39.2	40.6	40.6
137.5°	41.9	41.9	41.9	41.9	41.9
140°	43.2	43.2	43.2	43.2	43.2
142.5°	44.5	44.5	44.5	44.5	43.2
145°	44.5	43.2	43.2	43.2	43.2
147.5°	41.9	41.9	41.9	41.9	40.6
150°	37.9	37.9	37.9	37.9	37.9
152.5°	34.0	35.3	34.0	34.0	34.0
155°	31.4	32.7	31.4	31.4	31.4
157.5°	32.7	32.7	31.4	31.4	32.7
160°	32.7	32.7	32.7	32.7	32.7
162.5°	34.0	34.0	32.7	32.7	32.7
165°	34.0	34.0	32.7	32.7	32.7
167.5°	34.0	34.0	32.7	32.7	32.7
170°	34.0	34.0	32.7	32.7	32.7
172.5°	34.0	34.0	34.0	34.0	34.0
175°	32.7	34.0	32.7	34.0	34.0
177.5°	32.7	32.7	32.7	34.0	35.3
180°	34.0	34.0	34.0	34.0	34.0

(END OF REPORT)