

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: P381665

Luminaire Tested: **BMK-60-NCL-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: P381665
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-3)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-60-NCL-UNV-L750-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

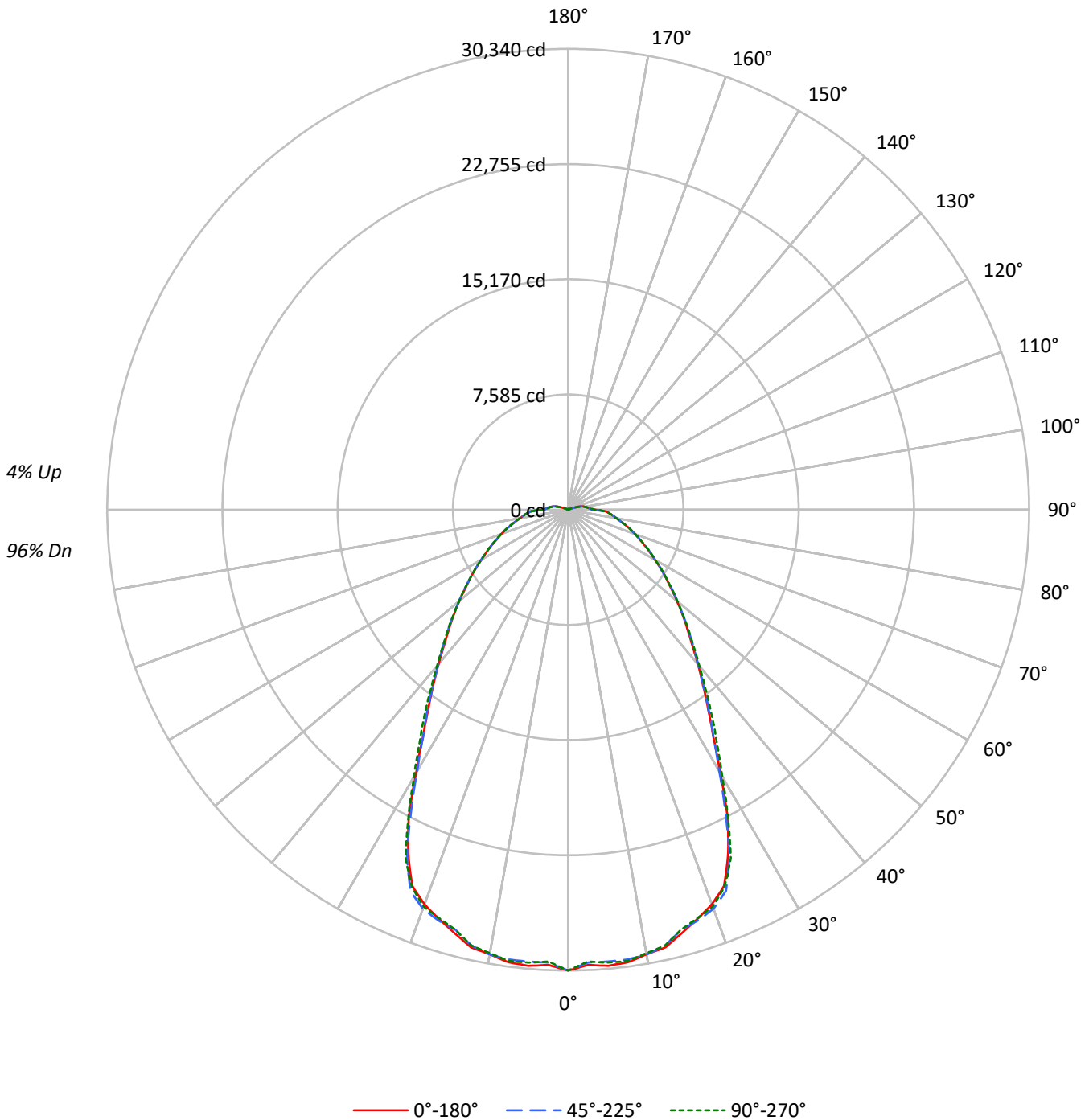
Lumens per Lamp: N/A
Luminaire Lumens: 63352.8 lumens
Efficiency: N/A
Efficacy: 156.2 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 405.7
Input Voltage (V): NR
Input Current (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		103	103	103		98	98	98	96
1	107	103	98	94	104	100	96	92	95	92	89		90	88	85		86	84	82	80
2	98	90	84	78	95	88	82	77	84	79	74		80	76	72		76	73	70	68
3	91	80	73	66	88	79	71	65	75	69	64		72	67	62		69	64	61	58
4	84	72	64	57	81	71	63	57	68	61	56		65	59	54		62	57	53	51
5	77	65	57	50	75	64	56	50	61	54	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	40
7	67	54	46	40	65	54	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	36		45	39	35	33
9	59	46	39	33	58	46	38	33	44	38	33		43	37	33		42	36	32	30
10	56	43	36	31	54	43	35	31	41	35	30		40	34	30		39	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	234015	234015	234015
5°	230967	228842	229353
10°	227959	228049	227397
15°	223363	221652	221551
20°	217455	219924	218730
25°	200868	202440	204116
30°	166613	165501	168923
35°	139526	140379	142947
40°	121522	121750	122888
45°	108028	108959	109087
50°	98153	98469	98689
55°	90393	90604	90619
60°	84341	84743	84524
65°	80666	80970	81330
70°	79300	79545	79745
75°	79956	79713	80280
80°	85363	85745	85051
85°	101778	101385	102268



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2854.1	4.5
10°-20°	8131.7	12.8
20°-30°	11308.7	17.9
30°-40°	10194.6	16.1
40°-50°	8640.3	13.6
50°-60°	7071.6	11.2
60°-70°	5558.8	8.8
70°-80°	4134.3	6.5
80°-90°	2879.3	4.5
90°-100°	1490.2	2.4
100°-110°	833.8	1.3
110°-120°	122.0	0.2
120°-130°	33.0	0.1
130°-140°	36.7	0.1
140°-150°	31.6	0.0
150°-160°	18.0	0.0
160°-170°	10.7	0.0
170°-180°	3.6	0.0
0°-30°	22294.4	35.2
0°-40°	32489.0	51.3
0°-60°	48200.9	76.1
0°-90°	60773.3	95.9
90°-120°	2446.1	3.9
90°-150°	2547.2	4.0
90°-180°	2580.0	4.1
0°-180°	63352.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	30340	30340	30340	30340	30340	
5°	30143	29878	29866	30020	29932	###
15°	28868	28703	28646	28852	28633	8140
25°	24917	24988	25112	25345	25320	11261
35°	16057	16036	16155	16204	16451	10138
45°	11086	11107	11182	11114	11195	8604
55°	7868	7830	7887	7887	7888	7067
65°	5552	5548	5573	5634	5597	5525
75°	3879	3892	3867	3893	3894	4129
85°	2720	2726	2709	2700	2733	2322
90°	1780	1694	1550	1672	1742	1028
95°	1330	1342	1375	1311	1304	1055
105°	840	832	824	804	815	839
115°	81	80	80	76	78	124
125°	37	38	37	37	38	32
135°	47	48	47	47	48	36
145°	52	51	52	51	51	32
155°	37	38	37	37	37	18
165°	39	38	38	38	38	11
175°	38	38	38	38	39	4
180°	38	38	38	38	38	



TEST NUMBER: P381665

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	30340.5	30340.5	30340.5	30340.5	30340.5
2.5°	29999.1	29852.6	29842.1	29885.3	29771.5
5°	30143.0	29877.5	29865.7	30020.0	29932.4
7.5°	30051.4	29830.4	29867.0	30046.2	29963.8
10°	29719.2	29628.9	29730.9	29882.7	29645.9
12.5°	29513.8	29388.2	29388.2	29410.5	29398.7
15°	28867.6	28702.8	28646.5	28851.9	28633.4
17.5°	28256.7	28112.8	28358.7	28297.2	28205.7
20°	27644.5	27726.9	27958.4	27832.9	27806.7
22.5°	26809.9	26840.0	27152.6	27157.9	26881.9
25°	24917.1	24987.7	25112.0	25344.8	25320.0
27.5°	22688.0	22414.6	22402.9	22920.9	22758.7
30°	19997.2	19922.7	19863.8	20252.3	20274.5
32.5°	17791.7	17870.2	17787.8	17999.7	18197.3
35°	16057.2	16036.2	16155.3	16203.7	16450.9
37.5°	14581.6	14563.3	14610.4	14758.2	14826.2
40°	13278.7	13278.7	13303.6	13451.4	13427.9
42.5°	12066.1	12181.2	12174.7	12216.5	12219.1
45°	11086.3	11107.2	11181.8	11113.8	11194.9
47.5°	10185.0	10149.7	10245.2	10166.7	10238.7
50°	9343.9	9282.4	9374.0	9289.0	9394.9
52.5°	8557.7	8491.0	8611.4	8525.0	8602.2
55°	7868.3	7830.4	7886.7	7886.7	7888.0
57.5°	7215.6	7207.7	7209.0	7261.4	7252.2
60°	6598.2	6629.6	6629.6	6666.2	6612.5
62.5°	6054.0	6065.8	6106.3	6127.2	6081.4
65°	5551.7	5547.7	5572.6	5634.1	5597.4
67.5°	5074.2	5089.9	5108.2	5172.3	5103.0
70°	4670.0	4666.1	4684.4	4726.2	4696.2
72.5°	4277.6	4269.7	4284.1	4305.0	4303.7
75°	3878.6	3891.7	3866.8	3893.0	3894.3
77.5°	3531.9	3529.3	3528.0	3514.9	3541.1
80°	3223.2	3220.6	3237.6	3203.6	3211.4
82.5°	2965.5	2961.6	2981.2	2935.4	2943.3
85°	2719.6	2726.1	2709.1	2700.0	2732.7
87.5°	2467.1	2450.1	2431.8	2438.3	2443.6
90°	1780.4	1694.0	1550.1	1671.8	1742.4
92.5°	1472.9	1514.8	1458.6	1448.1	1501.7
95°	1330.4	1342.1	1374.8	1310.7	1304.2
97.5°	1249.3	1278.0	1268.9	1227.0	1225.7
100°	1117.1	1132.8	1125.0	1109.3	1110.6
102.5°	999.4	1033.4	996.8	988.9	1000.7
105°	839.8	832.0	824.1	804.5	815.0
107.5°	583.4	591.3	574.3	570.3	587.3
110°	359.7	354.5	337.5	341.4	351.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	179.2	183.1	183.1	176.6	174.0
115°	81.1	79.8	79.8	75.9	78.5
117.5°	37.9	36.6	34.0	36.6	39.2
120°	30.1	31.4	28.8	30.1	32.7
122.5°	32.7	35.3	32.7	34.0	35.3
125°	36.6	37.9	36.6	36.6	37.9
127.5°	39.2	40.6	39.2	39.2	40.6
130°	41.9	43.2	41.9	43.2	43.2
132.5°	44.5	45.8	44.5	44.5	45.8
135°	47.1	48.4	47.1	47.1	48.4
137.5°	49.7	51.0	49.7	49.7	49.7
140°	52.3	52.3	51.0	52.3	51.0
142.5°	53.6	52.3	52.3	52.3	51.0
145°	52.3	51.0	52.3	51.0	51.0
147.5°	49.7	48.4	48.4	48.4	48.4
150°	44.5	44.5	43.2	44.5	44.5
152.5°	40.6	40.6	39.2	39.2	40.6
155°	36.6	37.9	36.6	36.6	36.6
157.5°	37.9	37.9	36.6	36.6	37.9
160°	37.9	37.9	36.6	36.6	37.9
162.5°	37.9	37.9	36.6	36.6	37.9
165°	39.2	37.9	37.9	37.9	37.9
167.5°	39.2	37.9	37.9	36.6	37.9
170°	39.2	39.2	37.9	36.6	37.9
172.5°	39.2	39.2	37.9	37.9	37.9
175°	37.9	37.9	37.9	37.9	39.2
177.5°	36.6	36.6	36.6	37.9	39.2
180°	37.9	37.9	37.9	37.9	37.9

(END OF REPORT)