

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: P381663

Luminaire Tested: **BMK-60-NCL-UNV-L735-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: P381663
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-L735-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

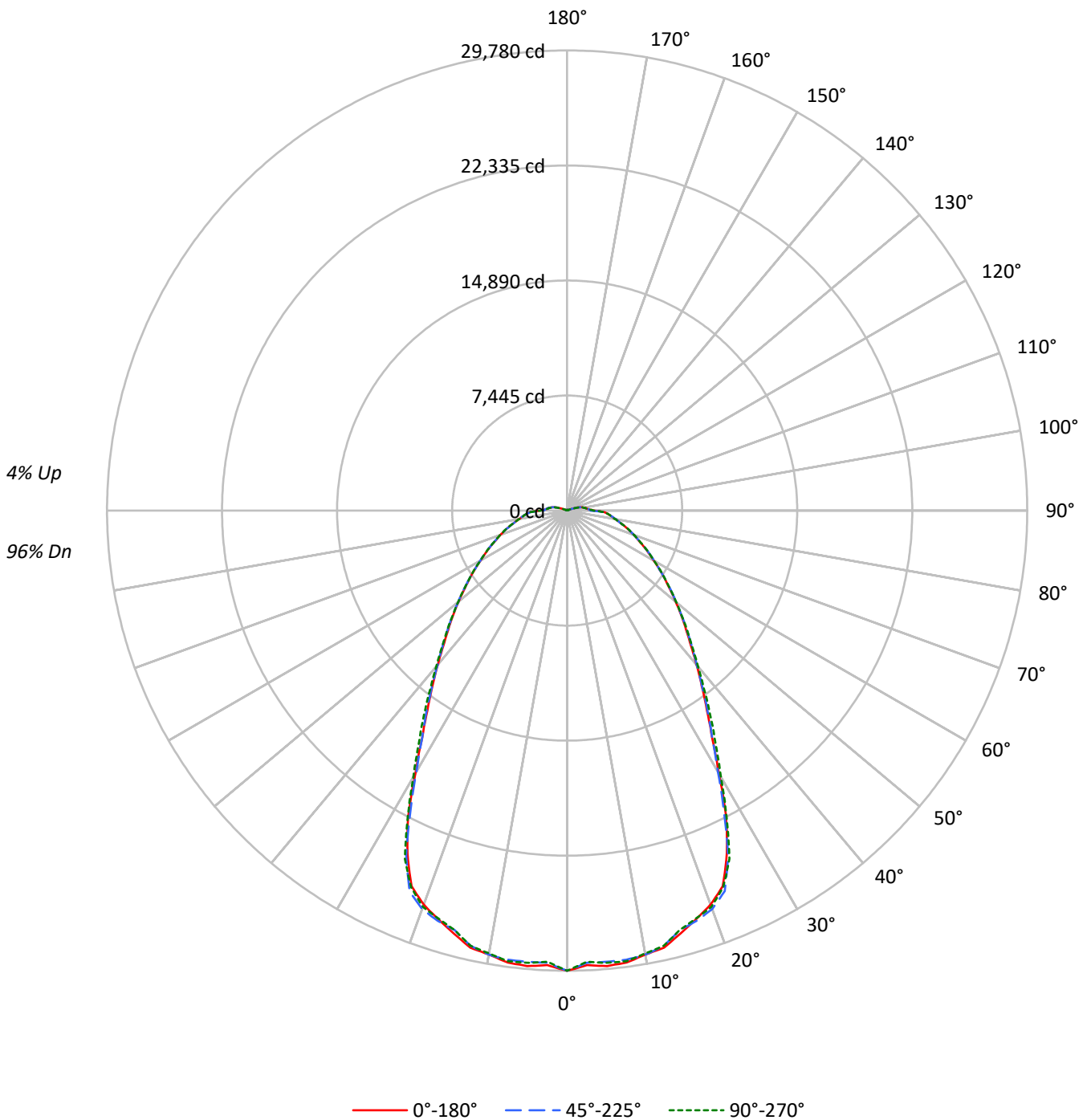
Lumens per Lamp: N/A
Luminaire Lumens: 62182.6 lumens
Efficiency: N/A
Efficacy: 153.3 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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°	229692	229692	229692
5°	226700	224615	225116
10°	223748	223837	223197
15°	219237	217558	217458
20°	213438	215862	214690
25°	197158	198700	200346
30°	163535	162444	165803
35°	136949	137786	140306
40°	119277	119501	120617
45°	106033	106947	107072
50°	96340	96650	96866
55°	88723	88930	88945
60°	82783	83177	82963
65°	79176	79475	79828
70°	77835	78074	78271
75°	78478	78241	78796
80°	83787	84161	83480
85°	99895	99514	100378



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2801.4	4.5
10°-20°	7981.5	12.8
20°-30°	11099.8	17.9
30°-40°	10006.3	16.1
40°-50°	8480.7	13.6
50°-60°	6940.9	11.2
60°-70°	5456.1	8.8
70°-80°	4058.0	6.5
80°-90°	2826.1	4.5
90°-100°	1462.7	2.4
100°-110°	818.4	1.3
110°-120°	119.8	0.2
120°-130°	32.4	0.1
130°-140°	36.0	0.1
140°-150°	31.0	0.0
150°-160°	17.7	0.0
160°-170°	10.5	0.0
170°-180°	3.6	0.0
0°-30°	21882.6	35.2
0°-40°	31888.9	51.3
0°-60°	47310.6	76.1
0°-90°	59650.7	95.9
90°-120°	2400.9	3.9
90°-150°	2500.2	4.0
90°-180°	2532.0	4.1
0°-180°	62182.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	29780	29780	29780	29780	29780	
5°	29586	29326	29314	29466	29380	###
15°	28334	28173	28117	28319	28104	7990
25°	24457	24526	24648	24877	24852	11053
35°	15761	15740	15857	15904	16147	9951
45°	10882	10902	10975	10908	10988	8445
55°	7723	7686	7741	7741	7742	6937
65°	5449	5445	5470	5530	5494	5423
75°	3807	3820	3795	3821	3822	4053
85°	2669	2676	2659	2650	2682	2279
90°	1748	1663	1522	1641	1710	1009
95°	1306	1317	1349	1286	1280	1036
105°	824	817	809	790	800	824
115°	80	78	78	74	77	122
125°	36	37	36	36	37	32
135°	46	48	46	46	48	36
145°	51	50	51	50	50	32
155°	36	37	36	36	36	18
165°	38	37	37	37	37	11
175°	37	37	37	37	38	4
180°	37	37	37	37	37	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	29780.1	29780.1	29780.1	29780.1	29780.1
2.5°	29445.0	29301.2	29290.9	29333.3	29221.6
5°	29586.2	29325.6	29314.0	29465.5	29379.5
7.5°	29496.3	29279.3	29315.3	29491.2	29410.3
10°	29170.2	29081.6	29181.8	29330.7	29098.3
12.5°	28968.6	28845.4	28845.4	28867.2	28855.6
15°	28334.4	28172.6	28117.4	28318.9	28104.5
17.5°	27734.7	27593.5	27834.9	27774.5	27684.7
20°	27133.9	27214.7	27442.0	27318.7	27293.1
22.5°	26314.7	26344.2	26651.1	26656.2	26385.3
25°	24456.8	24526.1	24648.1	24876.7	24852.3
27.5°	22268.9	22000.6	21989.0	22497.5	22338.3
30°	19627.8	19554.7	19496.9	19878.2	19900.0
32.5°	17463.1	17540.1	17459.2	17667.2	17861.1
35°	15760.6	15740.0	15856.9	15904.4	16147.0
37.5°	14312.3	14294.3	14340.5	14485.6	14552.4
40°	13033.4	13033.4	13057.8	13202.9	13179.8
42.5°	11843.2	11956.2	11949.8	11990.9	11993.4
45°	10881.5	10902.1	10975.3	10908.5	10988.1
47.5°	9996.9	9962.2	10055.9	9978.9	10049.5
50°	9171.3	9111.0	9200.8	9117.4	9221.4
52.5°	8399.6	8334.2	8452.3	8367.5	8443.3
55°	7723.0	7685.8	7741.0	7741.0	7742.3
57.5°	7082.3	7074.6	7075.9	7127.2	7118.3
60°	6476.3	6507.1	6507.1	6543.0	6490.4
62.5°	5942.2	5953.7	5993.5	6014.1	5969.1
65°	5449.1	5445.3	5469.7	5530.0	5494.0
67.5°	4980.5	4995.9	5013.8	5076.8	5008.7
70°	4583.7	4579.9	4597.8	4638.9	4609.4
72.5°	4198.5	4190.8	4205.0	4225.5	4224.2
75°	3806.9	3819.8	3795.4	3821.1	3822.3
77.5°	3466.7	3464.1	3462.8	3450.0	3475.7
80°	3163.7	3161.1	3177.8	3144.4	3152.1
82.5°	2910.7	2906.9	2926.1	2881.2	2888.9
85°	2669.3	2675.8	2659.1	2650.1	2682.2
87.5°	2421.5	2404.9	2386.9	2393.3	2398.4
90°	1747.5	1662.7	1521.5	1640.9	1710.2
92.5°	1445.7	1486.8	1431.6	1421.3	1474.0
95°	1305.8	1317.3	1349.4	1286.5	1280.1
97.5°	1226.2	1254.4	1245.4	1204.4	1203.1
100°	1096.5	1111.9	1104.2	1088.8	1090.1
102.5°	980.9	1014.3	978.4	970.7	982.2
105°	824.3	816.6	808.9	789.6	799.9
107.5°	572.6	580.3	563.7	559.8	576.5
110°	353.1	348.0	331.3	335.1	345.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	175.9	179.8	179.8	173.3	170.8
115°	79.6	78.3	78.3	74.5	77.0
117.5°	37.2	36.0	33.4	36.0	38.5
120°	29.5	30.8	28.2	29.5	32.1
122.5°	32.1	34.7	32.1	33.4	34.7
125°	36.0	37.2	36.0	36.0	37.2
127.5°	38.5	39.8	38.5	38.5	39.8
130°	41.1	42.4	41.1	42.4	42.4
132.5°	43.7	44.9	43.7	43.7	44.9
135°	46.2	47.5	46.2	46.2	47.5
137.5°	48.8	50.1	48.8	48.8	48.8
140°	51.4	51.4	50.1	51.4	50.1
142.5°	52.6	51.4	51.4	51.4	50.1
145°	51.4	50.1	51.4	50.1	50.1
147.5°	48.8	47.5	47.5	47.5	47.5
150°	43.7	43.7	42.4	43.7	43.7
152.5°	39.8	39.8	38.5	38.5	39.8
155°	36.0	37.2	36.0	36.0	36.0
157.5°	37.2	37.2	36.0	36.0	37.2
160°	37.2	37.2	36.0	36.0	37.2
162.5°	37.2	37.2	36.0	36.0	37.2
165°	38.5	37.2	37.2	37.2	37.2
167.5°	38.5	37.2	37.2	36.0	37.2
170°	38.5	38.5	37.2	36.0	37.2
172.5°	38.5	38.5	37.2	37.2	37.2
175°	37.2	37.2	37.2	37.2	38.5
177.5°	36.0	36.0	36.0	37.2	38.5
180°	37.2	37.2	37.2	37.2	37.2

(END OF REPORT)