

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: P294570

Luminaire Tested: **BMK-18-NCL-UNV-L840-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: P294570
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-7)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-18-NCL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW CLEAR LENS
Light Source: (528) 80 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

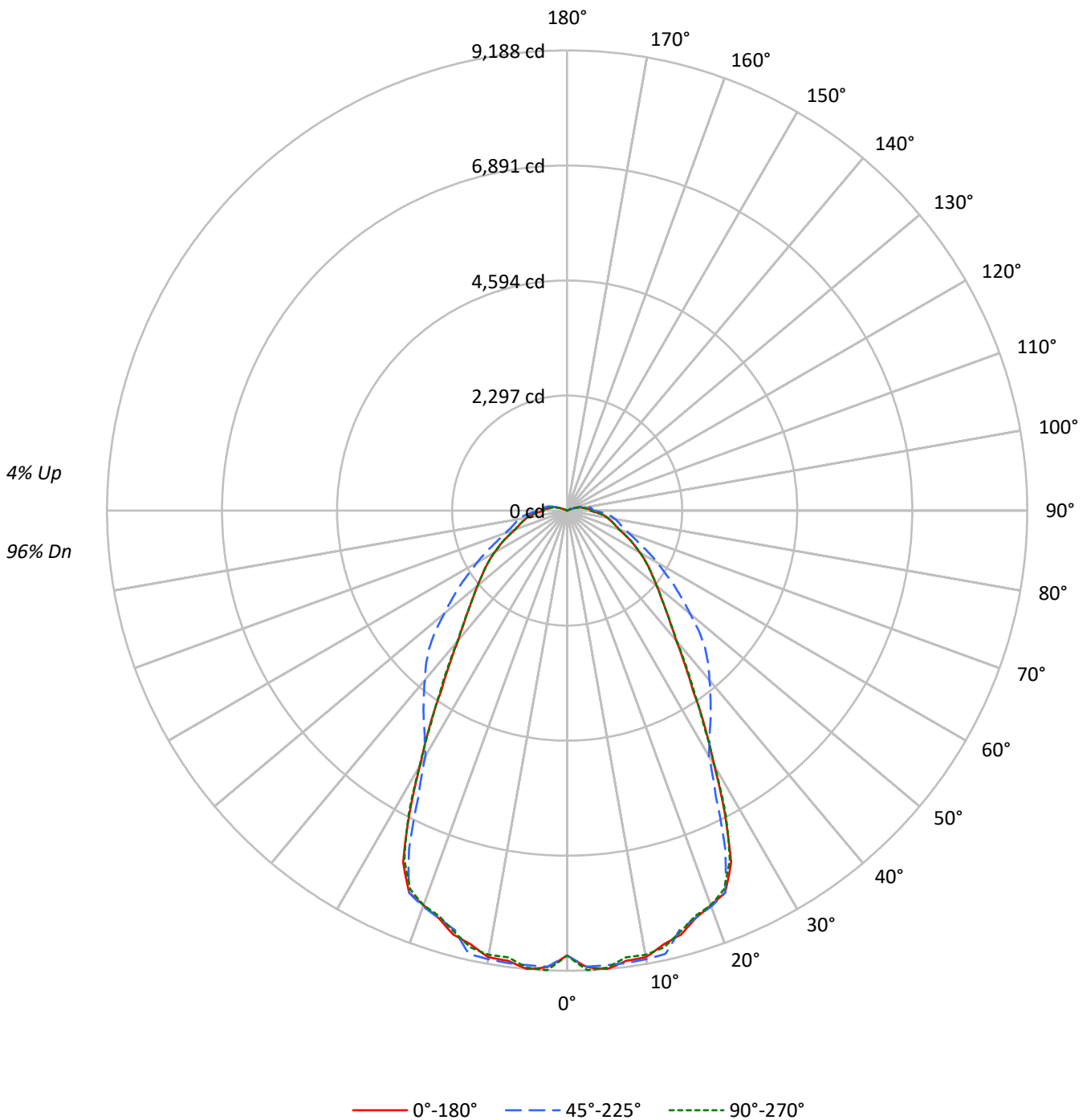
Lumens per Lamp: N/A
Luminaire Lumens: 18455.0 lumens
Efficiency: N/A
Efficacy: 162.2 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 113.8
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	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96				
1	108	103	99	95	105	100	96	93	95	92	89	91	88	86	86	84	82	80				
2	99	91	84	79	96	89	83	78	84	79	75	81	76	73	77	74	71	68				
3	91	81	73	67	88	79	72	66	76	70	65	72	67	63	69	65	61	59				
4	84	73	65	58	82	71	64	58	68	62	56	65	60	55	63	58	54	52				
5	78	66	58	51	76	65	57	51	62	55	50	60	54	49	58	52	48	46				
6	73	60	52	46	71	59	51	45	57	50	45	55	49	44	53	48	43	41				
7	68	55	47	41	66	54	46	41	52	45	40	51	44	40	49	43	39	37				
8	64	51	43	37	62	50	42	37	48	42	37	47	41	36	45	40	36	34				
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	42	37	33	31				
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	34	30	29				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	68494	68494	68494
5°	70364	69773	70167
10°	69428	69719	69057
15°	67800	67039	67367
20°	65941	66131	65917
25°	62421	60177	61909
30°	48887	47134	49101
35°	38051	43401	38380
40°	31022	40436	31133
45°	27003	37955	27018
50°	24518	33639	24533
55°	22955	29924	22834
60°	21443	26509	21443
65°	20067	23694	20067
70°	18803	22296	18778
75°	19584	22763	19522
80°	21515	25801	21475
85°	24343	29438	24287



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	864.8	4.7
10°-20°	2458.0	13.3
20°-30°	3373.9	18.3
30°-40°	2958.2	16.0
40°-50°	2531.8	13.7
50°-60°	2050.3	11.1
60°-70°	1537.9	8.3
70°-80°	1120.1	6.1
80°-90°	766.7	4.2
90°-100°	474.0	2.6
100°-110°	275.2	1.5
110°-120°	43.5	0.2
120°-130°	0.6	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°	6696.7	36.3
0°-40°	9654.9	52.3
0°-60°	14237.0	77.1
0°-90°	17661.7	95.7
90°-120°	792.7	4.3
90°-150°	793.3	4.3
90°-180°	793.0	4.3
0°-180°	18455.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8885	8885	8885	8885	8885	
5°	9188	9103	9110	9129	9162	868
15°	8767	8679	8668	8668	8711	2463
25°	7747	7456	7468	7468	7683	3428
35°	4381	4635	4997	4675	4419	2791
45°	2772	3228	3897	3201	2774	2161
55°	1999	2275	2606	2276	1988	1786
65°	1382	1583	1631	1575	1382	1370
75°	950	1079	1105	1073	947	1006
85°	651	707	787	707	649	563
90°	478	496	521	487	465	271
95°	407	413	490	421	410	322
105°	253	259	324	254	250	255
115°	27	29	38	29	27	42
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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8884.9	8884.9	8884.9	8884.9	8884.9
2.5°	9127.0	9062.0	9116.5	9152.8	9186.1
5°	9187.6	9102.8	9110.4	9128.6	9161.9
7.5°	9066.5	8975.7	9110.4	9043.8	8996.9
10°	9055.9	8909.1	9093.8	8971.2	9007.5
12.5°	8872.8	8857.7	9066.5	8916.7	8930.3
15°	8766.9	8679.1	8668.5	8668.5	8710.9
17.5°	8532.3	8479.3	8527.8	8502.0	8488.4
20°	8387.0	8362.8	8411.2	8435.4	8384.0
22.5°	8249.3	8131.3	8255.4	8152.4	8182.7
25°	7746.9	7456.3	7468.4	7468.4	7683.3
27.5°	6811.6	6642.1	6428.7	6666.3	6863.1
30°	5870.3	5920.2	5659.9	5909.7	5896.0
32.5°	5110.6	5251.3	5293.7	5257.4	5072.8
35°	4381.2	4635.4	4997.1	4674.8	4419.0
37.5°	3843.9	4193.5	4702.0	4185.9	3887.8
40°	3391.4	3807.6	4420.5	3825.8	3403.5
42.5°	3050.9	3508.0	4170.8	3489.8	3060.0
45°	2772.5	3228.0	3896.9	3200.7	2774.0
47.5°	2533.4	2969.2	3570.0	2970.7	2533.4
50°	2335.1	2689.2	3203.8	2687.7	2336.6
52.5°	2149.0	2478.9	2892.0	2460.7	2155.0
55°	1999.1	2274.6	2606.0	2276.1	1988.5
57.5°	1834.2	2088.4	2315.4	2085.4	1841.8
60°	1678.3	1905.3	2074.8	1888.7	1678.3
62.5°	1525.5	1738.8	1847.8	1740.4	1528.5
65°	1381.7	1583.0	1631.4	1575.4	1381.7
67.5°	1234.9	1431.6	1454.3	1422.6	1242.5
70°	1107.8	1304.5	1313.6	1290.9	1106.3
72.5°	1021.5	1180.4	1191.0	1183.4	1021.5
75°	950.4	1079.0	1104.7	1073.0	947.4
77.5°	876.2	982.2	1041.2	983.7	882.3
80°	812.7	891.4	974.6	892.9	811.2
82.5°	746.1	805.1	897.4	808.1	752.1
85°	650.7	706.7	786.9	706.7	649.2
87.5°	529.7	599.3	649.2	594.7	520.6
90°	478.2	496.4	520.6	487.3	464.6
92.5°	491.8	464.6	505.5	461.6	472.2
95°	407.1	413.1	490.3	420.7	410.1
97.5°	367.7	384.4	466.1	376.8	366.2
100°	323.9	351.1	419.2	345.0	325.4
102.5°	295.1	313.3	384.4	317.8	299.6
105°	252.7	258.8	323.9	254.2	249.7
107.5°	189.2	189.2	213.4	190.7	186.1
110°	125.6	119.6	128.6	116.5	125.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	66.6	63.6	74.2	62.0	65.1
115°	27.2	28.8	37.8	28.8	27.2
117.5°	7.6	12.1	13.6	12.1	7.6
120°	4.5	6.1	4.5	6.1	4.5
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)