

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: P294567

Luminaire Tested: **BMK-18-NCL-UNV-L740-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: P294567
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-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW CLEAR LENS
Light Source: (528) 70 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

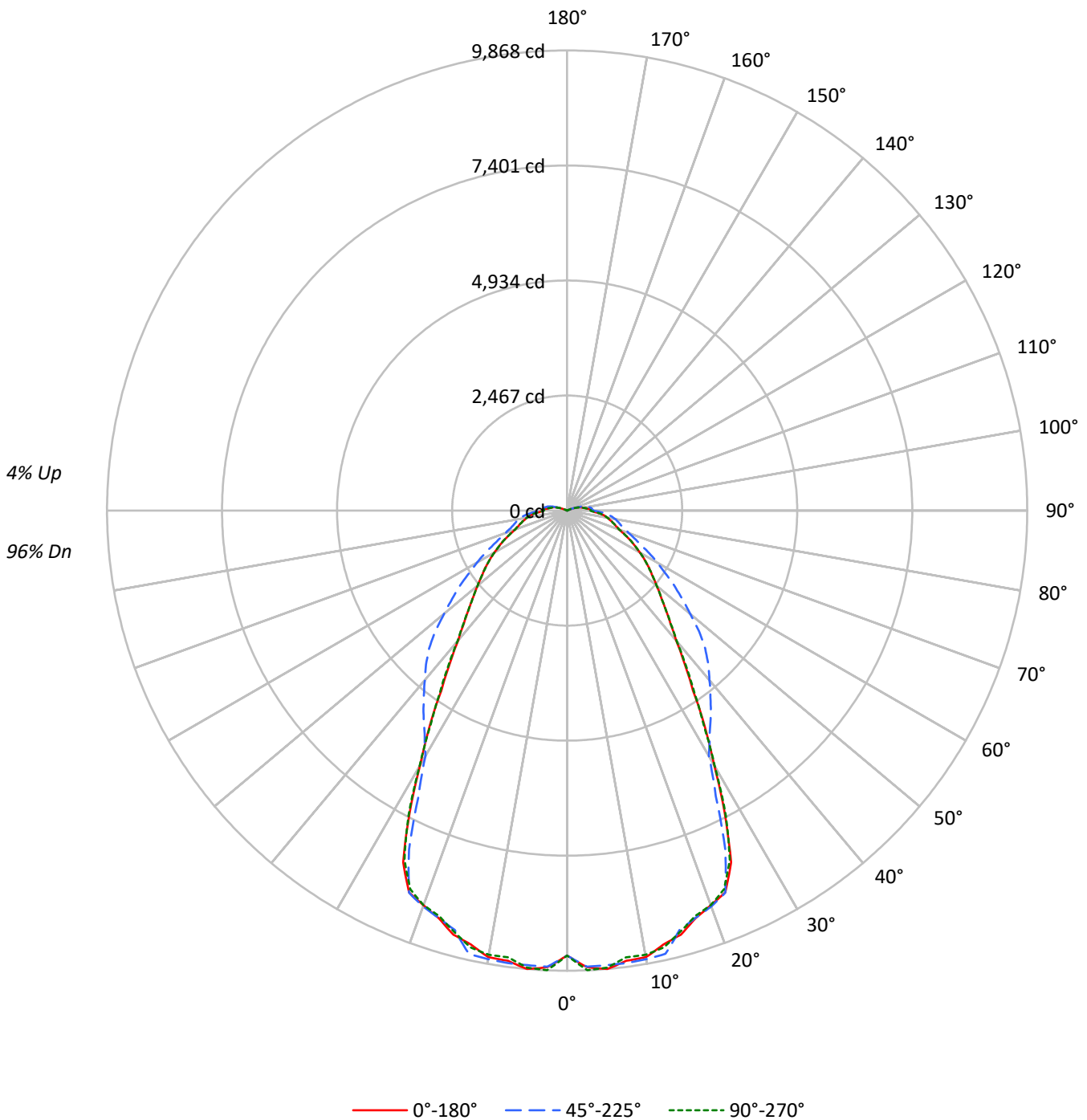
Lumens per Lamp: N/A
Luminaire Lumens: 19821.0 lumens
Efficiency: N/A
Efficacy: 174.2 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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°	73565	73565	73565
5°	75572	74937	75360
10°	74567	74879	74169
15°	72819	72001	72353
20°	70822	71026	70797
25°	67041	64631	66491
30°	52505	50624	52735
35°	40867	46613	41221
40°	33319	43429	33438
45°	29002	40764	29018
50°	26332	36128	26350
55°	24655	32139	24524
60°	23030	28471	23030
65°	21553	25447	21553
70°	20195	23946	20166
75°	21033	24449	20967
80°	23106	27710	23064
85°	26146	31619	26086



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	928.8	4.7
10°-20°	2640.0	13.3
20°-30°	3623.6	18.3
30°-40°	3177.1	16.0
40°-50°	2719.2	13.7
50°-60°	2202.1	11.1
60°-70°	1651.7	8.3
70°-80°	1203.0	6.1
80°-90°	823.5	4.2
90°-100°	509.1	2.6
100°-110°	295.5	1.5
110°-120°	46.7	0.2
120°-130°	0.7	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°	7192.4	36.3
0°-40°	10369.5	52.3
0°-60°	15290.8	77.1
0°-90°	18969.0	95.7
90°-120°	851.3	4.3
90°-150°	852.0	4.3
90°-180°	852.0	4.3
0°-180°	19821.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9543	9543	9543	9543	9543	
5°	9868	9777	9785	9804	9840	933
15°	9416	9322	9310	9310	9356	2645
25°	8320	8008	8021	8021	8252	3682
35°	4705	4978	5367	5021	4746	2998
45°	2978	3467	4185	3438	2979	2321
55°	2147	2443	2799	2445	2136	1919
65°	1484	1700	1752	1692	1484	1471
75°	1021	1159	1186	1152	1018	1081
85°	699	759	845	759	697	605
90°	514	533	559	523	499	291
95°	437	444	527	452	440	346
105°	271	278	348	273	268	274
115°	29	31	41	31	29	45
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°	9542.6	9542.6	9542.6	9542.6	9542.6
2.5°	9802.6	9732.7	9791.2	9830.2	9866.0
5°	9867.6	9776.6	9784.7	9804.2	9840.0
7.5°	9737.6	9640.1	9784.7	9713.2	9662.8
10°	9726.2	9568.6	9766.9	9635.2	9674.2
12.5°	9529.5	9513.3	9737.6	9576.7	9591.3
15°	9415.8	9321.5	9310.1	9310.1	9355.6
17.5°	9163.8	9107.0	9159.0	9131.3	9116.7
20°	9007.8	8981.8	9033.8	9059.8	9004.6
22.5°	8859.9	8733.1	8866.4	8755.9	8788.4
25°	8320.3	8008.2	8021.2	8021.2	8252.0
27.5°	7315.8	7133.8	6904.6	7159.8	7371.1
30°	6304.8	6358.4	6078.9	6347.1	6332.4
32.5°	5488.9	5640.0	5685.5	5646.5	5448.2
35°	4705.4	4978.5	5367.0	5020.8	4746.1
37.5°	4128.4	4503.9	5050.0	4495.8	4175.6
40°	3642.5	4089.4	4747.7	4108.9	3655.5
42.5°	3276.7	3767.6	4479.5	3748.1	3286.5
45°	2977.7	3466.9	4185.3	3437.7	2979.3
47.5°	2720.9	3189.0	3834.2	3190.6	2720.9
50°	2507.9	2888.3	3440.9	2886.7	2509.6
52.5°	2308.0	2662.4	3106.1	2642.9	2314.5
55°	2147.1	2442.9	2798.9	2444.6	2135.7
57.5°	1969.9	2243.0	2486.8	2239.8	1978.1
60°	1802.5	2046.3	2228.4	2028.5	1802.5
62.5°	1638.4	1867.6	1984.6	1869.2	1641.6
65°	1484.0	1700.1	1752.1	1692.0	1484.0
67.5°	1326.3	1537.6	1562.0	1527.8	1334.4
70°	1189.8	1401.1	1410.8	1386.4	1188.1
72.5°	1097.1	1267.8	1279.2	1271.0	1097.1
75°	1020.7	1158.9	1186.5	1152.4	1017.5
77.5°	941.1	1054.9	1118.3	1056.5	947.6
80°	872.8	957.3	1046.7	959.0	871.2
82.5°	801.3	864.7	963.8	867.9	807.8
85°	698.9	759.0	845.2	759.0	697.3
87.5°	568.9	643.6	697.3	638.8	559.1
90°	513.6	533.1	559.1	523.4	499.0
92.5°	528.2	499.0	542.9	495.7	507.1
95°	437.2	443.7	526.6	451.9	440.5
97.5°	395.0	412.8	500.6	404.7	393.3
100°	347.8	377.1	450.2	370.6	349.5
102.5°	316.9	336.5	412.8	341.3	321.8
105°	271.4	277.9	347.8	273.1	268.2
107.5°	203.2	203.2	229.2	204.8	199.9
110°	134.9	128.4	138.2	125.2	134.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	71.5	68.3	79.6	66.6	69.9
115°	29.3	30.9	40.6	30.9	29.3
117.5°	8.1	13.0	14.6	13.0	8.1
120°	4.9	6.5	4.9	6.5	4.9
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)