

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: P294531

Luminaire Tested: **BMK-18-NFL-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: P294531
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-7)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-18-NFL-UNV-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW FROSTED LENS
Light Source: (528) 70 CRI 4000K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

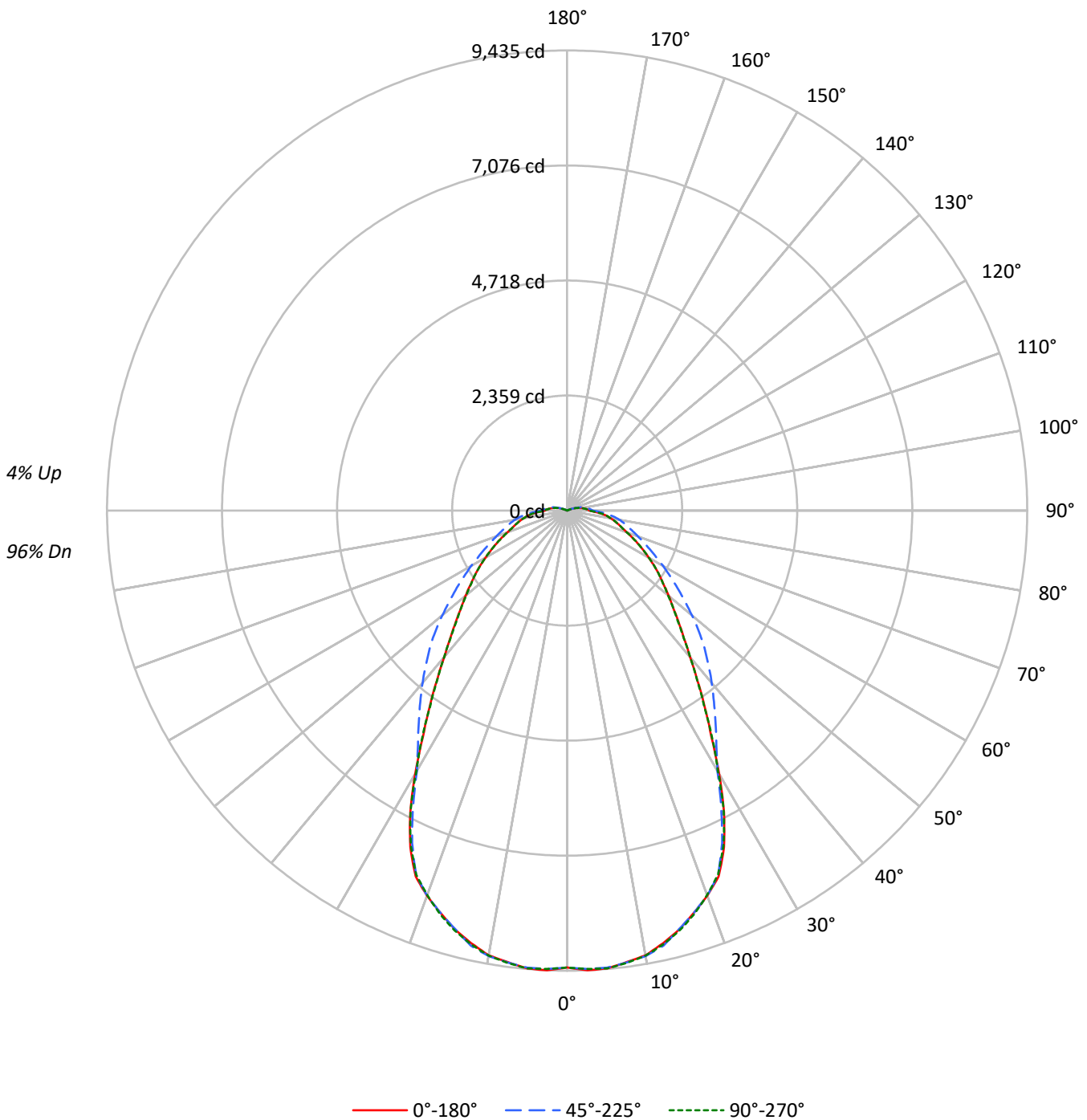
Lumens per Lamp: N/A
Luminaire Lumens: 19622.0 lumens
Efficiency: N/A
Efficacy: 172.4 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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	0
RCR																		
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96
1	108	103	98	95	105	100	96	93	95	92	89	91	88	86	87	84	82	80
2	99	91	84	78	96	88	82	77	84	79	75	80	76	72	77	73	70	68
3	91	80	73	66	88	79	71	66	75	69	64	72	67	62	69	65	61	59
4	84	72	64	57	81	71	63	57	68	61	56	65	59	55	62	58	53	51
5	77	65	57	50	75	64	56	50	61	55	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	41
7	67	54	46	40	65	53	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	35	45	39	35	33
9	59	46	39	33	58	46	38	33	44	38	33	43	37	32	42	36	32	30
10	56	43	36	31	54	42	35	30	41	35	30	40	34	30	39	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	72213	72213	72213
5°	72156	72029	72156
10°	70986	71117	71022
15°	68747	68669	68940
20°	66078	66023	65939
25°	61336	60584	61087
30°	51905	51275	51567
35°	42716	46071	42591
40°	35841	42197	35880
45°	31452	38780	31214
50°	28559	35042	28363
55°	26498	31680	26485
60°	24683	29013	24745
65°	23291	27044	23161
70°	22111	26190	22021
75°	22397	26712	22409
80°	24022	28872	24035
85°	26292	31294	26610



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	892.1	4.5
10°-20°	2499.1	12.7
20°-30°	3416.4	17.4
30°-40°	3209.0	16.4
40°-50°	2766.8	14.1
50°-60°	2270.2	11.6
60°-70°	1749.2	8.9
70°-80°	1281.6	6.5
80°-90°	821.3	4.2
90°-100°	444.1	2.3
100°-110°	230.0	1.2
110°-120°	41.6	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°	6807.7	34.7
0°-40°	10016.6	51.0
0°-60°	15053.6	76.7
0°-90°	18905.7	96.3
90°-120°	715.6	3.6
90°-150°	716.3	3.7
90°-180°	716.0	3.6
0°-180°	19622.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9367	9367	9367	9367	9367	
5°	9422	9415	9405	9401	9422	893
15°	8889	8869	8879	8874	8914	2500
25°	7612	7528	7519	7499	7581	3443
35°	4918	5095	5305	5084	4904	3095
45°	3229	3545	3982	3534	3205	2511
55°	2308	2522	2759	2520	2306	2068
65°	1604	1783	1862	1779	1595	1592
75°	1087	1223	1296	1219	1088	1154
85°	703	753	836	751	711	615
90°	456	492	526	498	456	262
95°	386	397	448	396	386	298
105°	208	211	246	212	209	217
115°	23	31	40	31	24	36
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°	9367.2	9367.2	9367.2	9367.2	9367.2
2.5°	9435.4	9417.8	9408.2	9397.6	9406.6
5°	9421.6	9415.2	9405.0	9400.8	9421.6
7.5°	9338.4	9332.6	9345.9	9323.5	9355.0
10°	9259.0	9239.9	9276.1	9201.0	9263.8
12.5°	9084.8	9098.1	9136.5	9083.2	9107.7
15°	8889.3	8869.0	8879.2	8873.8	8914.3
17.5°	8645.3	8632.5	8644.2	8630.3	8673.0
20°	8404.4	8388.4	8397.5	8389.5	8386.8
22.5°	8118.8	8067.7	8088.5	8031.5	8081.6
25°	7612.2	7528.5	7518.9	7499.2	7581.3
27.5°	6966.9	6883.8	6836.9	6857.2	6956.8
30°	6232.7	6227.9	6157.1	6203.4	6192.2
32.5°	5503.9	5644.0	5689.8	5641.3	5536.4
35°	4918.3	5094.7	5304.6	5083.5	4903.9
37.5°	4386.6	4637.0	4943.3	4614.1	4372.7
40°	3918.2	4223.0	4613.0	4202.2	3922.5
42.5°	3539.9	3861.8	4283.2	3856.4	3535.7
45°	3229.3	3545.3	3981.6	3534.1	3204.8
47.5°	2944.8	3262.9	3664.1	3257.0	2944.3
50°	2720.0	2980.5	3337.5	2980.0	2701.3
52.5°	2495.1	2741.3	3030.6	2746.1	2485.5
55°	2307.6	2522.3	2758.9	2520.2	2306.5
57.5°	2119.5	2324.6	2501.5	2322.0	2122.2
60°	1931.9	2131.2	2270.8	2125.4	1936.7
62.5°	1760.4	1954.9	2049.7	1944.7	1764.6
65°	1603.7	1782.8	1862.1	1779.0	1594.7
67.5°	1448.2	1624.5	1696.4	1626.1	1443.4
70°	1302.7	1483.3	1543.0	1481.2	1297.4
72.5°	1183.4	1353.3	1412.5	1348.5	1183.4
75°	1086.9	1222.8	1296.3	1219.1	1087.5
77.5°	993.7	1104.5	1192.9	1101.3	1001.1
80°	907.4	993.1	1090.6	983.6	907.9
82.5°	816.8	872.7	969.7	868.5	821.0
85°	702.8	753.4	836.5	750.7	711.3
87.5°	569.6	627.6	674.5	627.6	577.0
90°	456.1	491.8	525.9	497.6	455.5
92.5°	432.1	443.8	488.0	445.4	433.2
95°	386.3	396.9	448.1	396.4	386.3
97.5°	343.1	353.2	404.9	351.6	341.0
100°	297.3	306.4	355.9	309.0	295.7
102.5°	255.7	262.7	304.8	263.2	255.2
105°	208.3	211.0	246.2	212.1	209.4
107.5°	154.5	157.7	175.8	159.8	157.2
110°	103.4	106.0	118.3	108.2	106.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	58.6	61.8	77.3	62.3	57.5
115°	23.4	30.9	40.0	31.4	24.0
117.5°	6.4	11.7	14.4	11.7	6.9
120°	5.3	5.9	5.3	5.9	4.8
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)