

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: P294518

Luminaire Tested: **BMK-12-NFL-UNV-L735-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: P294518
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-12-NFL-UNV-L735-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW FROSTED LENS
Light Source: (528) 70 CRI 3500K LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12797.0 lumens
Efficiency: N/A
Efficacy: 172.2 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

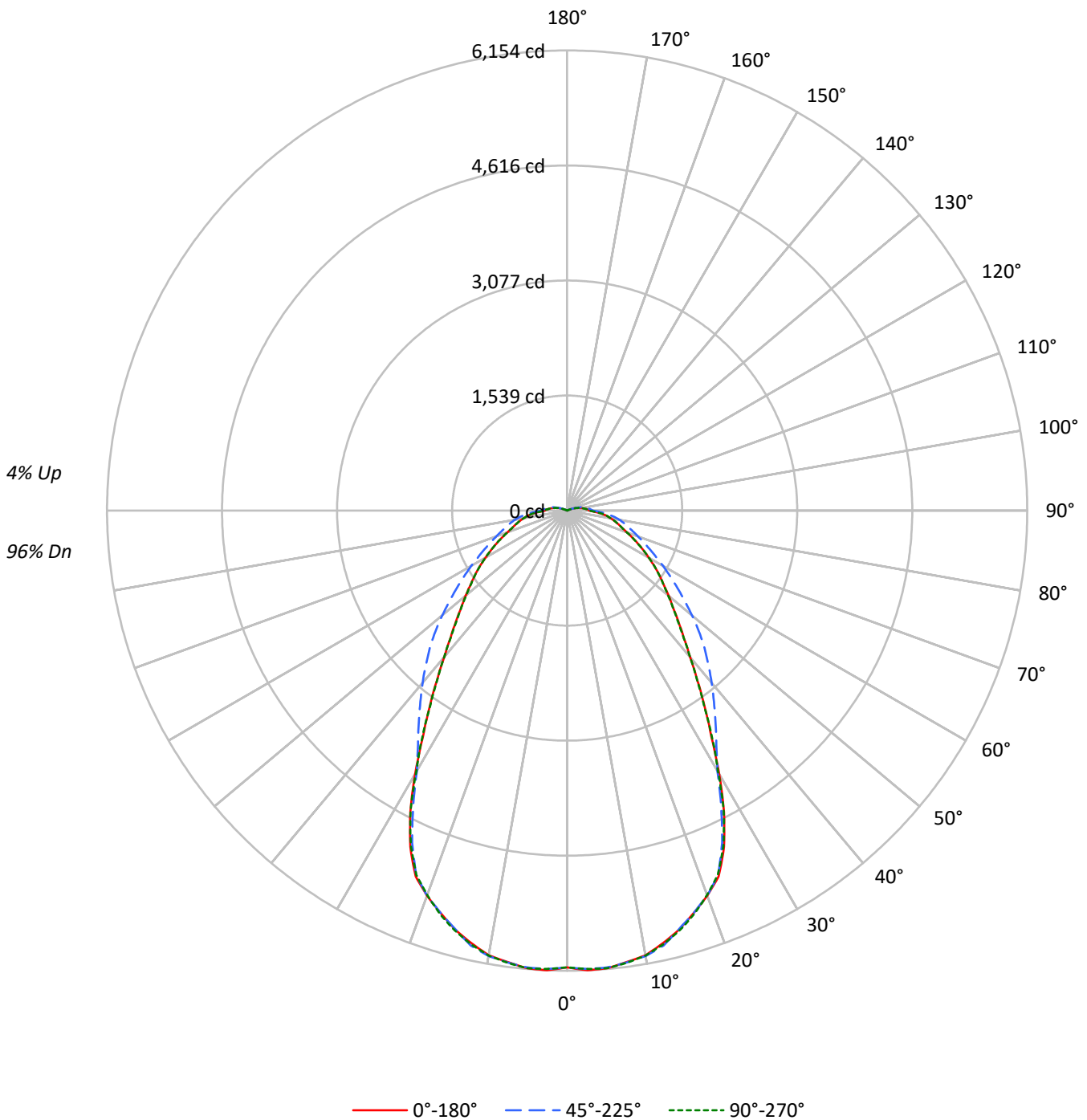
Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	47096	47096	47096
5°	47058	46975	47058
10°	46295	46380	46320
15°	44835	44784	44961
20°	43095	43059	43004
25°	40002	39512	39839
30°	33851	33440	33631
35°	27858	30046	27777
40°	23375	27520	23401
45°	20513	25291	20357
50°	18625	22853	18497
55°	17281	20661	17273
60°	16099	18922	16138
65°	15190	17637	15104
70°	14421	17080	14361
75°	14608	17420	14614
80°	15667	18831	15675
85°	17145	20407	17355



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	581.8	4.5
10°-20°	1629.9	12.7
20°-30°	2228.1	17.4
30°-40°	2092.8	16.4
40°-50°	1804.4	14.1
50°-60°	1480.5	11.6
60°-70°	1140.8	8.9
70°-80°	835.9	6.5
80°-90°	535.6	4.2
90°-100°	289.6	2.3
100°-110°	150.0	1.2
110°-120°	27.1	0.2
120°-130°	0.4	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°	4439.8	34.7
0°-40°	6532.6	51.0
0°-60°	9817.6	76.7
0°-90°	12329.8	96.3
90°-120°	466.7	3.6
90°-150°	467.1	3.7
90°-180°	467.0	3.6
0°-180°	12797.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6109	6109	6109	6109	6109	
5°	6144	6140	6134	6131	6144	582
15°	5797	5784	5791	5787	5814	1630
25°	4964	4910	4904	4891	4944	2246
35°	3208	3323	3460	3315	3198	2018
45°	2106	2312	2597	2305	2090	1637
55°	1505	1645	1799	1644	1504	1348
65°	1046	1163	1214	1160	1040	1038
75°	709	798	845	795	709	753
85°	458	491	546	490	464	401
90°	297	321	343	324	297	171
95°	252	259	292	258	252	194
105°	136	138	160	138	137	142
115°	15	20	26	20	16	24
125°	0	0	0	0	0	0
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



TEST NUMBER: P294518

CATALOG NUMBER: BMK-12-NFL-UNV-L735-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6109.1	6109.1	6109.1	6109.1	6109.1
2.5°	6153.5	6142.1	6135.8	6128.9	6134.8
5°	6144.5	6140.3	6133.7	6131.0	6144.5
7.5°	6090.3	6086.5	6095.2	6080.6	6101.1
10°	6038.5	6026.0	6049.6	6000.7	6041.7
12.5°	5924.9	5933.6	5958.6	5923.9	5939.8
15°	5797.4	5784.2	5790.8	5787.3	5813.7
17.5°	5638.2	5629.9	5637.5	5628.5	5656.3
20°	5481.2	5470.7	5476.7	5471.4	5469.7
22.5°	5294.9	5261.6	5275.1	5237.9	5270.6
25°	4964.5	4909.9	4903.7	4890.8	4944.3
27.5°	4543.7	4489.5	4458.9	4472.1	4537.1
30°	4064.8	4061.7	4015.5	4045.7	4038.4
32.5°	3589.5	3680.9	3710.8	3679.1	3610.7
35°	3207.6	3322.6	3459.5	3315.3	3198.2
37.5°	2860.8	3024.1	3223.9	3009.2	2851.8
40°	2555.4	2754.1	3008.5	2740.6	2558.2
42.5°	2308.7	2518.5	2793.4	2515.1	2305.9
45°	2106.1	2312.1	2596.7	2304.8	2090.1
47.5°	1920.5	2128.0	2389.6	2124.2	1920.2
50°	1773.9	1943.8	2176.6	1943.5	1761.7
52.5°	1627.3	1787.8	1976.5	1790.9	1621.0
55°	1504.9	1645.0	1799.3	1643.6	1504.2
57.5°	1382.3	1516.1	1631.4	1514.3	1384.0
60°	1260.0	1389.9	1481.0	1386.1	1263.1
62.5°	1148.1	1274.9	1336.8	1268.3	1150.9
65°	1045.9	1162.7	1214.4	1160.2	1040.0
67.5°	944.5	1059.5	1106.4	1060.5	941.3
70°	849.6	967.4	1006.3	966.0	846.1
72.5°	771.8	882.6	921.2	879.5	771.8
75°	708.9	797.5	845.4	795.0	709.2
77.5°	648.1	720.3	778.0	718.2	652.9
80°	591.8	647.7	711.3	641.5	592.1
82.5°	532.7	569.2	632.4	566.4	535.5
85°	458.3	491.3	545.5	489.6	463.9
87.5°	371.5	409.3	439.9	409.3	376.3
90°	297.4	320.7	343.0	324.5	297.1
92.5°	281.8	289.5	318.3	290.5	282.5
95°	251.9	258.9	292.2	258.5	251.9
97.5°	223.8	230.4	264.1	229.3	222.4
100°	193.9	199.8	232.1	201.5	192.9
102.5°	166.8	171.3	198.8	171.7	166.4
105°	135.9	137.6	160.5	138.3	136.6
107.5°	100.8	102.9	114.7	104.2	102.5
110°	67.4	69.1	77.1	70.5	69.1



TEST NUMBER: P294518

CATALOG NUMBER: BMK-12-NFL-UNV-L735-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	38.2	40.3	50.4	40.7	37.5
115°	15.3	20.2	26.1	20.5	15.6
117.5°	4.2	7.6	9.4	7.6	4.5
120°	3.5	3.8	3.5	3.8	3.1
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)