

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: P294566

Luminaire Tested: **BMK-18-NCL-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: P294566
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-L735-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH NARROW CLEAR 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: 19562.0 lumens
Efficiency: N/A
Efficacy: 171.9 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

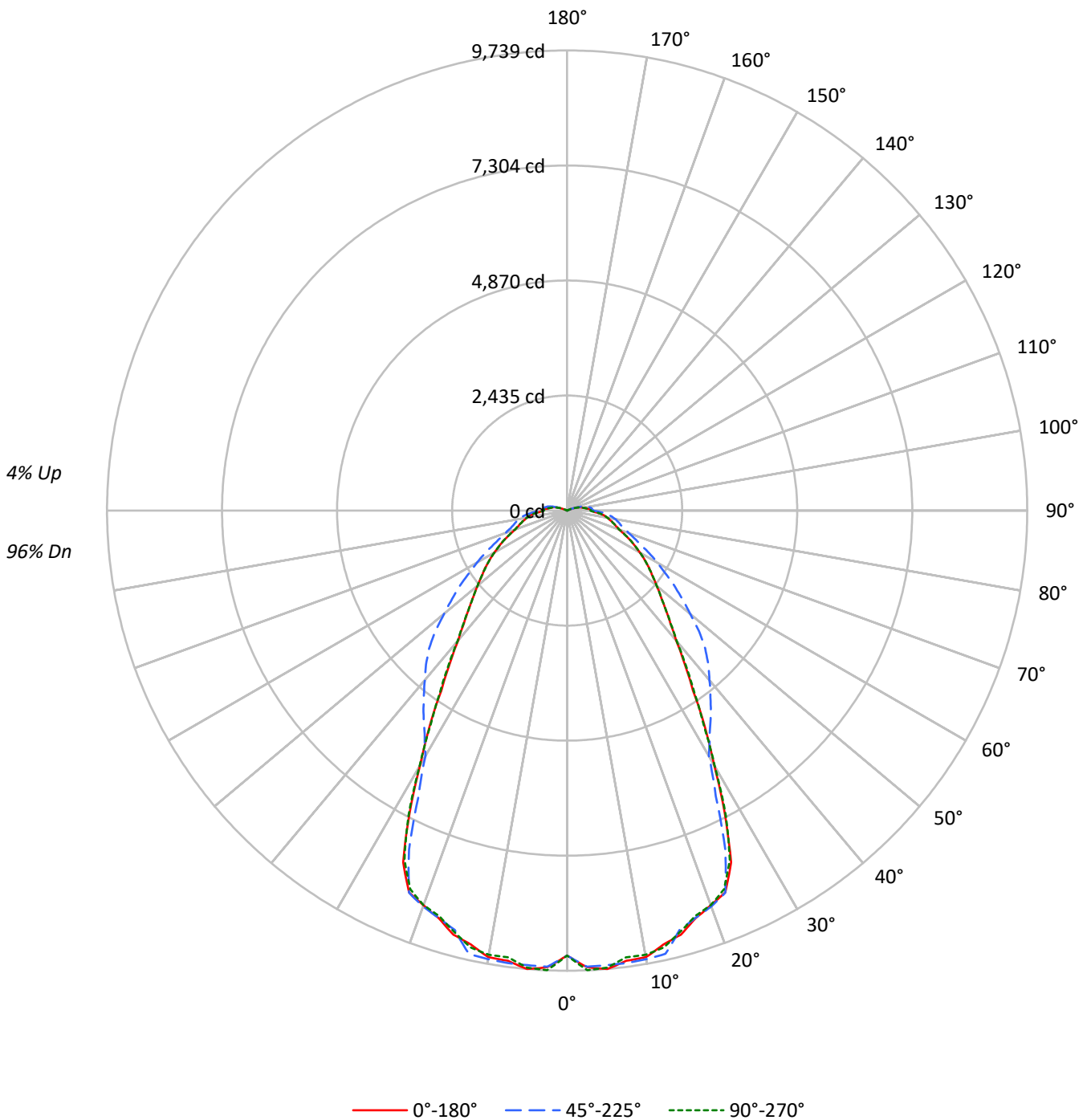
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	72603	72603	72603
5°	74584	73958	74375
10°	73593	73900	73200
15°	71867	71061	71408
20°	69896	70098	69871
25°	66165	63787	65622
30°	51819	49962	52046
35°	40334	46003	40682
40°	32884	42862	33001
45°	28623	40231	28639
50°	25989	35656	26005
55°	24333	31719	24204
60°	22730	28100	22730
65°	21271	25116	21271
70°	19930	23634	19903
75°	20759	24130	20693
80°	22804	27350	22762
85°	25806	31204	25746



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	916.6	4.7
10°-20°	2605.5	13.3
20°-30°	3576.3	18.3
30°-40°	3135.6	16.0
40°-50°	2683.6	13.7
50°-60°	2173.3	11.1
60°-70°	1630.1	8.3
70°-80°	1187.3	6.1
80°-90°	812.7	4.2
90°-100°	502.4	2.6
100°-110°	291.7	1.5
110°-120°	46.1	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°	7098.4	36.3
0°-40°	10234.0	52.3
0°-60°	15091.0	77.1
0°-90°	18721.1	95.7
90°-120°	840.2	4.3
90°-150°	840.9	4.3
90°-180°	841.0	4.3
0°-180°	19562.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9418	9418	9418	9418	9418	
5°	9739	9649	9657	9676	9711	920
15°	9293	9200	9188	9188	9233	2611
25°	8212	7904	7916	7916	8144	3634
35°	4644	4914	5297	4955	4684	2958
45°	2939	3422	4131	3393	2940	2291
55°	2119	2411	2762	2413	2108	1893
65°	1465	1678	1729	1670	1465	1452
75°	1007	1144	1171	1137	1004	1066
85°	690	749	834	749	688	597
90°	507	526	552	516	492	287
95°	432	438	520	446	435	342
105°	268	274	343	270	265	270
115°	29	30	40	30	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



TEST NUMBER: P294566

CATALOG NUMBER: BMK-18-NCL-UNV-L735-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9417.9	9417.9	9417.9	9417.9	9417.9
2.5°	9674.5	9605.5	9663.3	9701.8	9737.1
5°	9738.7	9648.9	9656.9	9676.1	9711.4
7.5°	9610.4	9514.1	9656.9	9586.3	9536.6
10°	9599.1	9443.5	9639.2	9509.3	9547.8
12.5°	9405.0	9389.0	9610.4	9451.5	9466.0
15°	9292.7	9199.7	9188.5	9188.5	9233.4
17.5°	9044.1	8988.0	9039.3	9012.0	8997.6
20°	8890.1	8864.4	8915.8	8941.4	8886.9
22.5°	8744.1	8619.0	8750.5	8641.5	8673.5
25°	8211.6	7903.6	7916.4	7916.4	8144.2
27.5°	7220.2	7040.5	6814.4	7066.2	7274.7
30°	6222.4	6275.4	5999.5	6264.1	6249.7
32.5°	5417.2	5566.3	5611.3	5572.8	5377.1
35°	4644.0	4913.5	5296.8	4955.2	4684.1
37.5°	4074.5	4445.0	4984.0	4437.0	4121.0
40°	3594.9	4036.0	4685.7	4055.2	3607.7
42.5°	3233.9	3718.4	4421.0	3699.1	3243.6
45°	2938.8	3421.6	4130.6	3392.7	2940.4
47.5°	2685.3	3147.3	3784.1	3148.9	2685.3
50°	2475.2	2850.5	3395.9	2848.9	2476.8
52.5°	2277.9	2627.6	3065.5	2608.3	2284.3
55°	2119.1	2411.0	2762.3	2412.6	2107.8
57.5°	1944.2	2213.7	2454.3	2210.5	1952.2
60°	1779.0	2019.6	2199.3	2002.0	1779.0
62.5°	1617.0	1843.1	1958.6	1844.8	1620.2
65°	1464.6	1677.9	1729.3	1669.9	1464.6
67.5°	1309.0	1517.5	1541.6	1507.9	1317.0
70°	1174.2	1382.8	1392.4	1368.3	1172.6
72.5°	1082.8	1251.2	1262.5	1254.4	1082.8
75°	1007.4	1143.7	1171.0	1137.3	1004.2
77.5°	928.8	1041.1	1103.6	1042.7	935.2
80°	861.4	944.8	1033.1	946.4	859.8
82.5°	790.8	853.4	951.3	856.6	797.3
85°	689.8	749.1	834.1	749.1	688.2
87.5°	561.4	635.2	688.2	630.4	551.8
90°	506.9	526.2	551.8	516.5	492.5
92.5°	521.3	492.5	535.8	489.3	500.5
95°	431.5	437.9	519.7	445.9	434.7
97.5°	389.8	407.4	494.1	399.4	388.2
100°	343.3	372.2	444.3	365.7	344.9
102.5°	312.8	332.1	407.4	336.9	317.6
105°	267.9	274.3	343.3	269.5	264.7
107.5°	200.5	200.5	226.2	202.1	197.3
110°	133.1	126.7	136.4	123.5	133.1



TEST NUMBER: P294566

CATALOG NUMBER: BMK-18-NCL-UNV-L735-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	70.6	67.4	78.6	65.8	69.0
115°	28.9	30.5	40.1	30.5	28.9
117.5°	8.0	12.8	14.4	12.8	8.0
120°	4.8	6.4	4.8	6.4	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)