

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: P381669

Luminaire Tested: **BMK-70-NCL-UNV-L735-CD-U**

Issue Date: 2/4/2020

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: P381669
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-3)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-NCL-UNV-L735-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW CLEAR LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

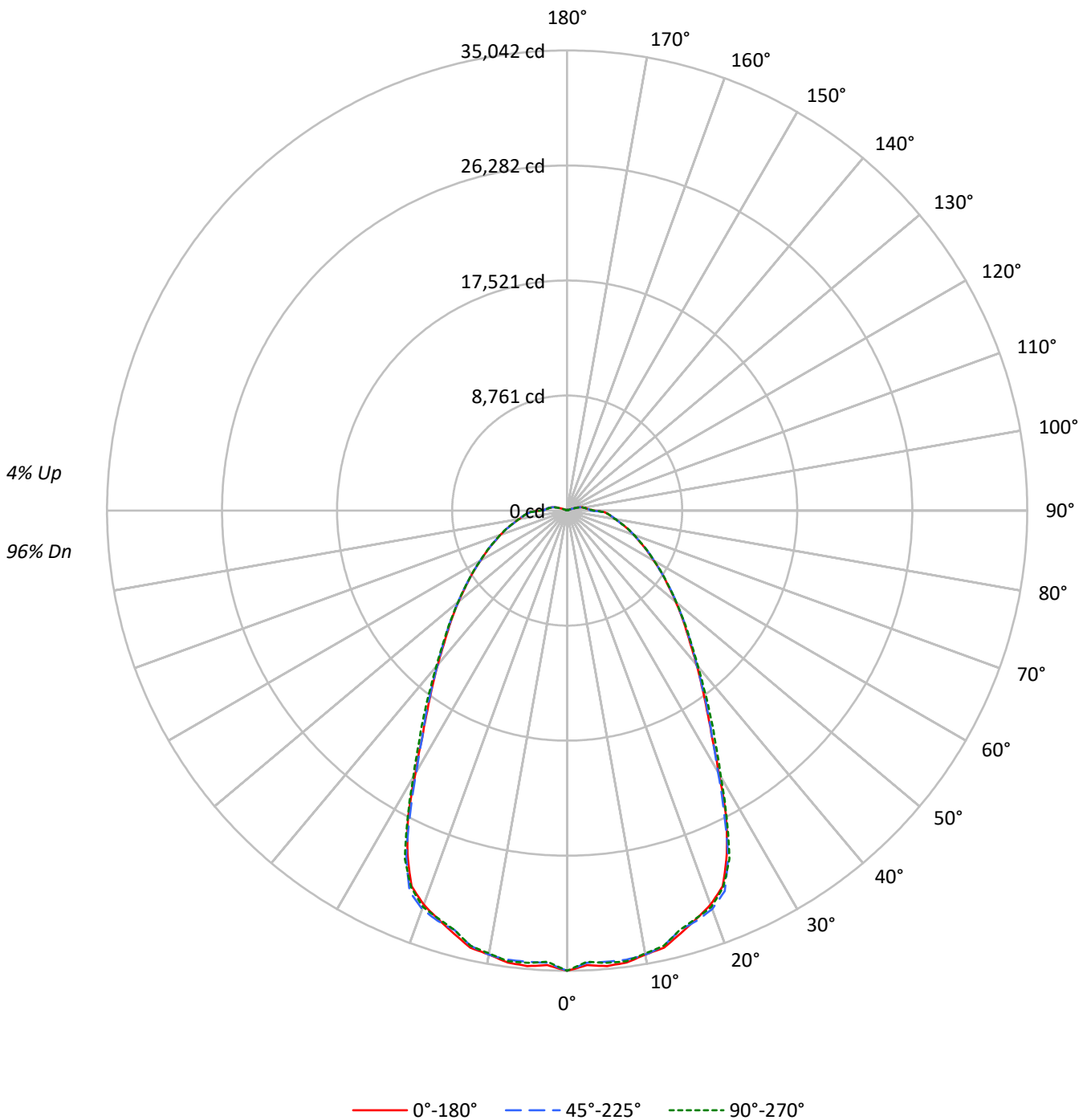
Lumens per Lamp: N/A
Luminaire Lumens: 73170.3 lumens
Efficiency: N/A
Efficacy: 146.1 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 1.07 / 1.07
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (A_{in}): 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	103	103	103	98	98	98	96
1	107	103	98	94	104	100	96	92	95	92	89	90	88	85	86	84	82	80
2	98	90	84	78	95	88	82	77	84	79	74	80	76	72	76	73	70	68
3	91	80	73	66	88	79	71	65	75	69	64	72	67	62	69	64	61	58
4	84	72	64	57	81	71	63	57	68	61	56	65	59	54	62	57	53	51
5	77	65	57	50	75	64	56	50	61	54	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	40
7	67	54	46	40	65	54	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	36	45	39	35	33
9	59	46	39	33	58	46	38	33	44	38	33	43	37	33	42	36	32	30
10	56	43	36	31	54	43	35	31	41	35	30	40	34	30	39	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	270279	270279	270279
5°	266759	264305	264895
10°	263285	263389	262636
15°	257976	256001	255884
20°	251153	254005	252626
25°	231996	233811	235747
30°	192432	191148	195101
35°	161148	162132	165100
40°	140355	140617	141930
45°	124769	125844	125991
50°	113364	113728	113982
55°	104401	104644	104661
60°	97410	97874	97624
65°	93167	93518	93935
70°	91589	91871	92102
75°	92346	92065	92721
80°	98592	99032	98232
85°	117548	117095	118113



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3296.4	4.5
10°-20°	9391.8	12.8
20°-30°	13061.2	17.9
30°-40°	11774.4	16.1
40°-50°	9979.3	13.6
50°-60°	8167.4	11.2
60°-70°	6420.2	8.8
70°-80°	4775.0	6.5
80°-90°	3325.4	4.5
90°-100°	1721.2	2.4
100°-110°	963.0	1.3
110°-120°	140.9	0.2
120°-130°	38.1	0.1
130°-140°	42.3	0.1
140°-150°	36.4	0.0
150°-160°	20.8	0.0
160°-170°	12.3	0.0
170°-180°	4.2	0.0
0°-30°	25749.3	35.2
0°-40°	37523.7	51.3
0°-60°	55670.4	76.1
0°-90°	70191.0	95.9
90°-120°	2825.1	3.9
90°-150°	2942.0	4.0
90°-180°	2979.0	4.1
0°-180°	73170.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	35042	35042	35042	35042	35042	
5°	34814	34508	34494	34672	34571	###
15°	33341	33151	33086	33323	33071	9401
25°	28778	28860	29004	29272	29244	13006
35°	18546	18521	18659	18715	19000	11709
45°	12804	12828	12915	12836	12930	9937
55°	9088	9044	9109	9109	9110	8162
65°	6412	6407	6436	6507	6465	6381
75°	4480	4495	4466	4496	4498	4769
85°	3141	3149	3129	3118	3156	2682
90°	2056	1956	1790	1931	2012	1187
95°	1536	1550	1588	1514	1506	1219
105°	970	961	952	929	941	969
115°	94	92	92	88	91	144
125°	42	44	42	42	44	37
135°	54	56	54	54	56	42
145°	60	59	60	59	59	37
155°	42	44	42	42	42	21
165°	45	44	44	44	44	13
175°	44	44	44	44	45	4
180°	44	44	44	44	44	



TEST NUMBER: P381669

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	35042.3	35042.3	35042.3	35042.3	35042.3
2.5°	34648.0	34478.8	34466.7	34516.5	34385.1
5°	34814.2	34507.5	34493.9	34672.1	34570.9
7.5°	34708.4	34453.1	34495.4	34702.4	34607.2
10°	34324.6	34220.4	34338.2	34513.5	34240.0
12.5°	34087.4	33942.4	33942.4	33968.1	33954.5
15°	33341.1	33150.7	33085.8	33323.0	33070.7
17.5°	32635.5	32469.3	32753.4	32682.4	32576.6
20°	31928.5	32023.6	32291.1	32146.0	32115.8
22.5°	30964.6	30999.3	31360.4	31366.4	31047.6
25°	28778.4	28860.0	29003.5	29272.4	29243.7
27.5°	26203.9	25888.1	25874.6	26472.8	26285.5
30°	23096.1	23010.0	22942.0	23390.7	23416.4
32.5°	20548.9	20639.5	20544.3	20789.1	21017.2
35°	18545.5	18521.3	18658.8	18714.7	19000.3
37.5°	16841.3	16820.1	16874.5	17045.2	17123.8
40°	15336.5	15336.5	15365.2	15535.9	15508.7
42.5°	13935.9	14068.9	14061.3	14109.7	14112.7
45°	12804.3	12828.5	12914.6	12836.0	12929.7
47.5°	11763.4	11722.6	11832.9	11742.2	11825.3
50°	10791.9	10720.9	10826.6	10728.4	10850.8
52.5°	9883.9	9806.8	9945.8	9846.1	9935.2
55°	9087.7	9043.9	9108.8	9108.8	9110.3
57.5°	8333.8	8324.7	8326.2	8386.6	8376.1
60°	7620.6	7656.9	7656.9	7699.2	7637.3
62.5°	6992.1	7005.7	7052.6	7076.7	7023.9
65°	6412.0	6407.4	6436.2	6507.2	6464.9
67.5°	5860.5	5878.7	5899.8	5973.8	5893.8
70°	5393.7	5389.1	5410.3	5458.6	5423.9
72.5°	4940.4	4931.4	4948.0	4972.2	4970.6
75°	4479.6	4494.7	4466.0	4496.2	4497.8
77.5°	4079.3	4076.2	4074.7	4059.6	4089.8
80°	3722.7	3719.7	3739.3	3700.0	3709.1
82.5°	3425.1	3420.5	3443.2	3390.3	3399.4
85°	3141.0	3148.6	3128.9	3118.4	3156.1
87.5°	2849.4	2829.8	2808.6	2816.2	2822.2
90°	2056.2	1956.5	1790.3	1930.8	2012.4
92.5°	1701.2	1749.5	1684.6	1672.5	1734.4
95°	1536.5	1550.1	1587.9	1513.9	1506.3
97.5°	1442.8	1476.1	1465.5	1417.2	1415.7
100°	1290.3	1308.4	1299.3	1281.2	1282.7
102.5°	1154.3	1193.6	1151.3	1142.2	1155.8
105°	970.0	960.9	951.8	929.2	941.2
107.5°	673.8	682.9	663.3	658.7	678.4
110°	415.5	409.4	389.8	394.3	406.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	207.0	211.5	211.5	204.0	200.9
115°	93.7	92.2	92.2	87.6	90.7
117.5°	43.8	42.3	39.3	42.3	45.3
120°	34.7	36.3	33.2	34.7	37.8
122.5°	37.8	40.8	37.8	39.3	40.8
125°	42.3	43.8	42.3	42.3	43.8
127.5°	45.3	46.8	45.3	45.3	46.8
130°	48.3	49.9	48.3	49.9	49.9
132.5°	51.4	52.9	51.4	51.4	52.9
135°	54.4	55.9	54.4	54.4	55.9
137.5°	57.4	58.9	57.4	57.4	57.4
140°	60.4	60.4	58.9	60.4	58.9
142.5°	61.9	60.4	60.4	60.4	58.9
145°	60.4	58.9	60.4	58.9	58.9
147.5°	57.4	55.9	55.9	55.9	55.9
150°	51.4	51.4	49.9	51.4	51.4
152.5°	46.8	46.8	45.3	45.3	46.8
155°	42.3	43.8	42.3	42.3	42.3
157.5°	43.8	43.8	42.3	42.3	43.8
160°	43.8	43.8	42.3	42.3	43.8
162.5°	43.8	43.8	42.3	42.3	43.8
165°	45.3	43.8	43.8	43.8	43.8
167.5°	45.3	43.8	43.8	42.3	43.8
170°	45.3	45.3	43.8	42.3	43.8
172.5°	45.3	45.3	43.8	43.8	43.8
175°	43.8	43.8	43.8	43.8	45.3
177.5°	42.3	42.3	42.3	43.8	45.3
180°	43.8	43.8	43.8	43.8	43.8

(END OF REPORT)