

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: P381688

Luminaire Tested: **BMK-70-NFL-UNV-L740-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: P381688
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1908-468-4)
Test Lab: INNOVATIONS CENTER(G2)
Issue Date: 2/4/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-70-NFL-UNV-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 73150.3 lumens
Efficiency: N/A
Efficacy: 146.1 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.1
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

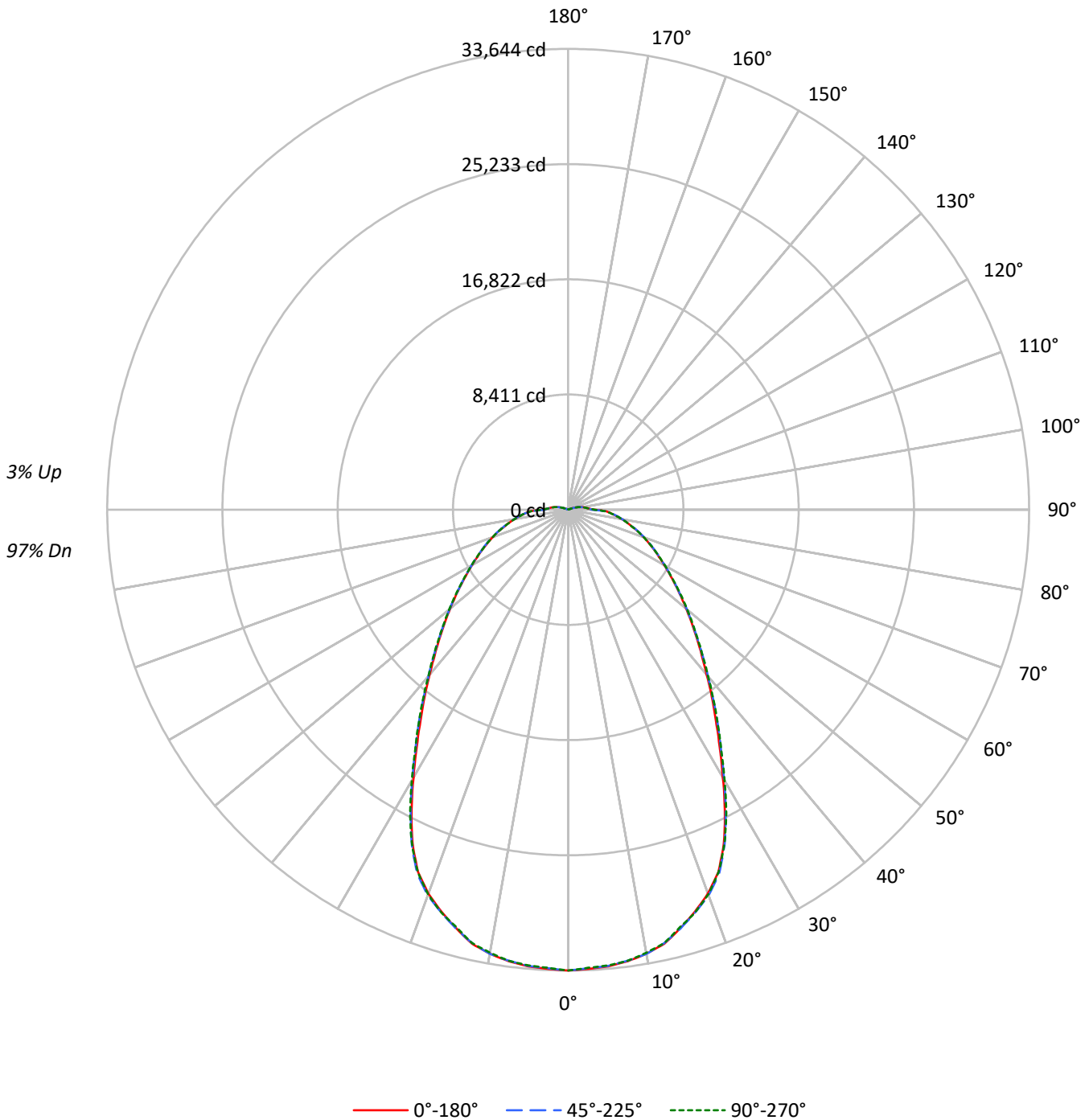
Input Watts (W): 500.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	97
1	107	102	98	94	104	100	96	92	95	91	88	90	88	85	86	84	82	80
2	98	90	83	77	95	88	81	76	84	78	74	80	75	72	76	73	70	67
3	90	80	72	65	87	78	70	65	74	68	63	71	66	61	68	64	60	58
4	83	71	63	56	80	70	62	56	67	60	55	64	58	54	62	57	52	50
5	77	64	56	49	75	63	55	49	61	54	48	58	52	47	56	51	46	44
6	71	59	50	44	69	57	49	43	55	48	43	53	47	42	51	46	42	39
7	67	54	45	39	65	53	45	39	51	44	38	49	43	38	47	42	37	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	46	38	32	57	45	37	32	43	37	32	42	36	31	41	35	31	29
10	55	42	35	30	54	42	34	30	40	34	29	39	33	29	38	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	259497	259497	259497
5°	256470	256107	255860
10°	252443	252561	251891
15°	244736	244925	244108
20°	234595	235691	235053
25°	216665	217726	217468
30°	188065	189404	190029
35°	163080	165102	165208
40°	143893	145083	145336
45°	129224	130134	130328
50°	118031	118626	119045
55°	109493	109967	110179
60°	103415	103983	104296
65°	100404	101049	100671
70°	99742	100236	99636
75°	100132	101173	100227
80°	105369	106301	105168
85°	119105	119850	118532



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3173.9	4.3
10°-20°	8900.4	12.2
20°-30°	12257.7	16.8
30°-40°	11887.0	16.3
40°-50°	10344.5	14.1
50°-60°	8605.3	11.8
60°-70°	6907.0	9.4
70°-80°	5184.8	7.1
80°-90°	3385.6	4.6
90°-100°	1529.4	2.1
100°-110°	725.8	1.0
110°-120°	116.4	0.2
120°-130°	32.4	0.0
130°-140°	36.0	0.0
140°-150°	31.3	0.0
150°-160°	18.1	0.0
160°-170°	11.0	0.0
170°-180°	3.8	0.0
0°-30°	24332.0	33.3
0°-40°	36219.0	49.5
0°-60°	55168.7	75.4
0°-90°	70646.2	96.6
90°-120°	2371.6	3.2
90°-150°	2471.2	3.4
90°-180°	2504.0	3.4
0°-180°	73150.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	33644	33644	33644	33644	33644	
5°	33471	33361	33424	33479	33392	###
15°	31630	31524	31654	31677	31549	8898
25°	26877	26875	27008	27053	26976	12218
35°	18768	18829	19001	19001	19013	11802
45°	13262	13317	13355	13375	13375	10285
55°	9531	9549	9572	9595	9591	8568
65°	6910	6930	6954	6958	6928	6871
75°	4857	4885	4908	4886	4862	5171
85°	3183	3210	3202	3161	3167	2761
90°	1943	1880	1724	1849	1891	1127
95°	1390	1395	1390	1361	1370	1069
105°	696	692	687	678	677	735
115°	83	81	81	78	76	119
125°	35	37	35	37	38	31
135°	46	48	46	48	48	35
145°	52	50	50	50	50	32
155°	37	38	37	37	37	18
165°	40	40	38	38	38	11
175°	38	40	38	40	40	4
180°	40	40	40	40	40	



TEST NUMBER: P381688

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	33644.4	33644.4	33644.4	33644.4	33644.4
2.5°	33560.2	33469.9	33503.6	33561.8	33474.5
5°	33471.4	33361.2	33424.0	33479.1	33391.8
7.5°	33252.5	33139.2	33217.3	33306.1	33217.3
10°	32911.2	32808.6	32926.5	32937.2	32839.2
12.5°	32451.9	32338.6	32402.9	32442.7	32406.0
15°	31629.9	31524.2	31654.3	31677.3	31548.7
17.5°	30761.9	30725.1	30821.6	30876.7	30827.7
20°	29823.5	29849.5	29962.8	29975.0	29881.7
22.5°	28626.4	28604.9	28768.7	28748.8	28664.7
25°	26876.6	26875.1	27008.3	27052.7	26976.2
27.5°	24758.0	24707.5	24898.8	24898.8	24992.2
30°	22572.0	22541.4	22732.7	22745.0	22807.7
32.5°	20560.5	20612.5	20759.5	20791.6	20787.0
35°	18767.9	18829.1	19000.6	19000.6	19012.8
37.5°	17200.3	17247.8	17350.3	17403.9	17381.0
40°	15723.1	15785.8	15853.2	15914.4	15880.8
42.5°	14418.8	14457.1	14559.7	14601.0	14558.1
45°	13261.5	13316.6	13354.9	13374.8	13374.8
47.5°	12205.2	12214.4	12281.8	12283.3	12304.8
50°	11236.2	11211.7	11292.9	11269.9	11332.7
52.5°	10348.4	10353.0	10386.6	10400.4	10443.3
55°	9530.9	9549.3	9572.2	9595.2	9590.6
57.5°	8779.3	8808.4	8840.5	8857.3	8831.3
60°	8090.4	8144.0	8134.8	8174.6	8159.3
62.5°	7473.5	7524.0	7528.6	7548.5	7527.1
65°	6910.1	6930.0	6954.5	6957.6	6928.5
67.5°	6377.4	6395.8	6431.0	6423.3	6385.1
70°	5873.8	5881.4	5902.9	5905.9	5867.6
72.5°	5373.2	5377.8	5393.1	5390.0	5364.0
75°	4857.3	4884.9	4907.8	4886.4	4861.9
77.5°	4424.1	4427.1	4444.0	4411.8	4416.4
80°	3978.6	3997.0	4013.8	3964.8	3971.0
82.5°	3580.6	3600.5	3611.2	3551.5	3559.2
85°	3182.6	3210.1	3202.5	3161.1	3167.3
87.5°	2781.5	2750.9	2729.5	2712.6	2720.3
90°	1942.6	1879.8	1723.7	1849.2	1890.6
92.5°	1558.4	1581.3	1559.9	1535.4	1558.4
95°	1390.0	1394.6	1390.0	1360.9	1370.1
97.5°	1226.2	1238.4	1226.2	1197.1	1207.8
100°	1053.2	1056.3	1048.6	1030.2	1037.9
102.5°	880.2	883.3	872.6	860.3	863.4
105°	696.5	691.9	687.3	678.2	676.6
107.5°	502.1	502.1	494.5	485.3	491.4
110°	329.1	324.5	307.7	310.8	313.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	174.5	176.0	179.1	169.9	163.8
115°	82.7	81.1	81.1	78.1	76.5
117.5°	36.7	36.7	33.7	35.2	36.7
120°	29.1	30.6	29.1	29.1	32.1
122.5°	32.1	33.7	32.1	33.7	35.2
125°	35.2	36.7	35.2	36.7	38.3
127.5°	38.3	39.8	38.3	39.8	39.8
130°	41.3	42.9	41.3	41.3	42.9
132.5°	42.9	44.4	44.4	44.4	44.4
135°	45.9	47.5	45.9	47.5	47.5
137.5°	49.0	49.0	49.0	49.0	49.0
140°	50.5	50.5	50.5	50.5	50.5
142.5°	52.0	52.0	52.0	52.0	50.5
145°	52.0	50.5	50.5	50.5	50.5
147.5°	49.0	49.0	49.0	49.0	47.5
150°	44.4	44.4	44.4	44.4	44.4
152.5°	39.8	41.3	39.8	39.8	39.8
155°	36.7	38.3	36.7	36.7	36.7
157.5°	38.3	38.3	36.7	36.7	38.3
160°	38.3	38.3	38.3	38.3	38.3
162.5°	39.8	39.8	38.3	38.3	38.3
165°	39.8	39.8	38.3	38.3	38.3
167.5°	39.8	39.8	38.3	38.3	38.3
170°	39.8	39.8	38.3	38.3	38.3
172.5°	39.8	39.8	39.8	39.8	39.8
175°	38.3	39.8	38.3	39.8	39.8
177.5°	38.3	38.3	38.3	39.8	41.3
180°	39.8	39.8	39.8	39.8	39.8

(END OF REPORT)