

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: P381679

Luminaire Tested: **BMK-50-NFL-UNV-L840-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: P381679
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-50-NFL-UNV-L840-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

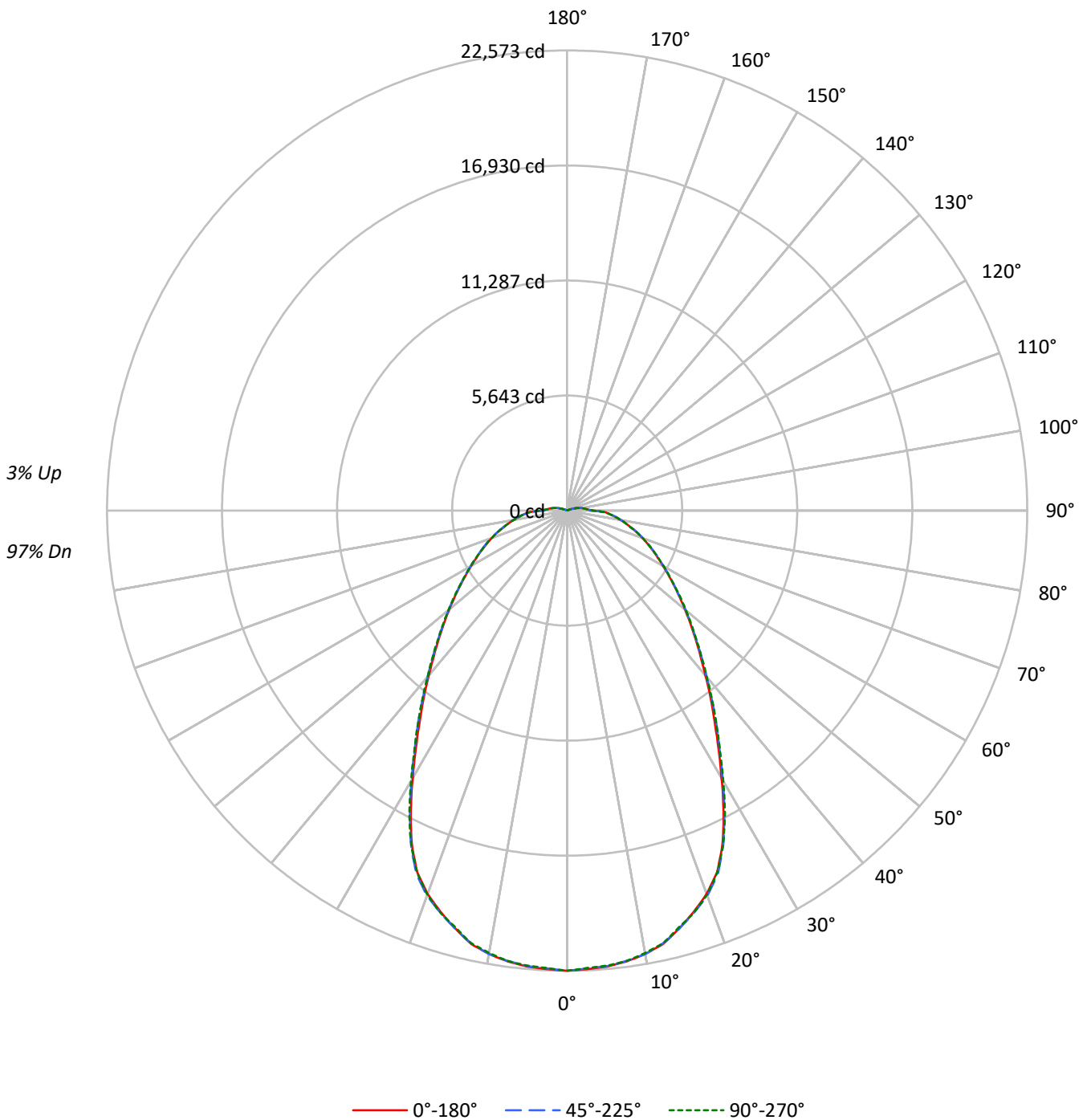
Lumens per Lamp: N/A
Luminaire Lumens: 49078.8 lumens
Efficiency: N/A
Efficacy: 147.6 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.1
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

Input Watts (W): 332.5
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°	174105	174105	174105
5°	172074	171830	171665
10°	169372	169451	169002
15°	164201	164328	163779
20°	157397	158132	157704
25°	145368	146079	145905
30°	126178	127077	127497
35°	109416	110772	110844
40°	96542	97341	97510
45°	86701	87311	87442
50°	79190	79590	79870
55°	73462	73781	73922
60°	69385	69765	69975
65°	67364	67797	67543
70°	66920	67251	66850
75°	67181	67880	67245
80°	70696	71321	70559
85°	79911	80409	79525



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2129.5	4.3
10°-20°	5971.6	12.2
20°-30°	8224.1	16.8
30°-40°	7975.4	16.3
40°-50°	6940.4	14.1
50°-60°	5773.5	11.8
60°-70°	4634.1	9.4
70°-80°	3478.6	7.1
80°-90°	2271.5	4.6
90°-100°	1026.2	2.1
100°-110°	486.9	1.0
110°-120°	78.1	0.2
120°-130°	21.7	0.0
130°-140°	24.1	0.0
140°-150°	21.0	0.0
150°-160°	12.2	0.0
160°-170°	7.4	0.0
170°-180°	2.5	0.0
0°-30°	16325.1	33.3
0°-40°	24300.5	49.5
0°-60°	37014.4	75.4
0°-90°	47398.7	96.6
90°-120°	1591.2	3.2
90°-150°	1658.0	3.4
90°-180°	1680.0	3.4
0°-180°	49078.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	22573	22573	22573	22573	22573	
5°	22457	22383	22425	22462	22404	###
15°	21222	21151	21238	21253	21167	5970
25°	18032	18031	18121	18150	18099	8198
35°	12592	12633	12748	12748	12756	7918
45°	8898	8934	8960	8974	8974	6900
55°	6395	6407	6422	6438	6435	5749
65°	4636	4650	4666	4668	4648	4610
75°	3259	3277	3293	3278	3262	3470
85°	2135	2154	2149	2121	2125	1853
90°	1303	1261	1156	1241	1268	756
95°	933	936	933	913	919	717
105°	467	464	461	455	454	493
115°	56	54	54	52	51	80
125°	24	25	24	25	26	21
135°	31	32	31	32	32	24
145°	35	34	34	34	34	21
155°	25	26	25	25	25	12
165°	27	27	26	26	26	8
175°	26	27	26	27	27	3
180°	27	27	27	27	27	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	22573.1	22573.1	22573.1	22573.1	22573.1
2.5°	22516.6	22456.0	22478.6	22517.6	22459.1
5°	22457.0	22383.1	22425.2	22462.2	22403.6
7.5°	22310.2	22234.2	22286.5	22346.1	22286.5
10°	22081.1	22012.3	22091.4	22098.6	22032.9
12.5°	21773.0	21697.0	21740.1	21766.8	21742.2
15°	21221.5	21150.6	21237.9	21253.3	21167.0
17.5°	20639.1	20614.5	20679.2	20716.1	20683.3
20°	20009.5	20027.0	20103.0	20111.2	20048.5
22.5°	19206.3	19192.0	19301.9	19288.5	19232.0
25°	18032.4	18031.4	18120.7	18150.5	18099.1
27.5°	16610.9	16577.0	16705.4	16705.4	16768.1
30°	15144.2	15123.7	15252.1	15260.3	15302.4
32.5°	13794.7	13829.6	13928.2	13949.8	13946.7
35°	12592.0	12633.0	12748.1	12748.1	12756.3
37.5°	11540.2	11572.1	11640.9	11676.8	11661.4
40°	10549.1	10591.2	10636.4	10677.5	10654.9
42.5°	9674.0	9699.7	9768.5	9796.3	9767.5
45°	8897.6	8934.5	8960.2	8973.6	8973.6
47.5°	8188.9	8195.0	8240.2	8241.3	8255.6
50°	7538.7	7522.3	7576.7	7561.3	7603.4
52.5°	6943.0	6946.1	6968.7	6978.0	7006.7
55°	6394.6	6406.9	6422.3	6437.7	6434.6
57.5°	5890.3	5909.8	5931.4	5942.7	5925.2
60°	5428.1	5464.0	5457.9	5484.6	5474.3
62.5°	5014.2	5048.1	5051.2	5064.5	5050.1
65°	4636.2	4649.6	4666.0	4668.1	4648.5
67.5°	4278.8	4291.1	4314.7	4309.6	4283.9
70°	3940.9	3946.0	3960.4	3962.5	3936.8
72.5°	3605.0	3608.1	3618.4	3616.3	3598.9
75°	3258.9	3277.4	3292.8	3278.4	3262.0
77.5°	2968.3	2970.3	2981.6	2960.0	2963.1
80°	2669.4	2681.7	2693.0	2660.1	2664.2
82.5°	2402.3	2415.7	2422.9	2382.8	2388.0
85°	2135.3	2153.8	2148.6	2120.9	2125.0
87.5°	1866.2	1845.7	1831.3	1820.0	1825.1
90°	1303.4	1261.3	1156.5	1240.7	1268.4
92.5°	1045.6	1061.0	1046.6	1030.2	1045.6
95°	932.6	935.7	932.6	913.1	919.2
97.5°	822.7	830.9	822.7	803.2	810.4
100°	706.6	708.7	703.5	691.2	696.4
102.5°	590.6	592.6	585.4	577.2	579.3
105°	467.3	464.2	461.2	455.0	454.0
107.5°	336.9	336.9	331.7	325.6	329.7
110°	220.8	217.7	206.4	208.5	210.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	117.1	118.1	120.2	114.0	109.9
115°	55.5	54.4	54.4	52.4	51.4
117.5°	24.6	24.6	22.6	23.6	24.6
120°	19.5	20.5	19.5	19.5	21.6
122.5°	21.6	22.6	21.6	22.6	23.6
125°	23.6	24.6	23.6	24.6	25.7
127.5°	25.7	26.7	25.7	26.7	26.7
130°	27.7	28.8	27.7	27.7	28.8
132.5°	28.8	29.8	29.8	29.8	29.8
135°	30.8	31.8	30.8	31.8	31.8
137.5°	32.9	32.9	32.9	32.9	32.9
140°	33.9	33.9	33.9	33.9	33.9
142.5°	34.9	34.9	34.9	34.9	33.9
145°	34.9	33.9	33.9	33.9	33.9
147.5°	32.9	32.9	32.9	32.9	31.8
150°	29.8	29.8	29.8	29.8	29.8
152.5°	26.7	27.7	26.7	26.7	26.7
155°	24.6	25.7	24.6	24.6	24.6
157.5°	25.7	25.7	24.6	24.6	25.7
160°	25.7	25.7	25.7	25.7	25.7
162.5°	26.7	26.7	25.7	25.7	25.7
165°	26.7	26.7	25.7	25.7	25.7
167.5°	26.7	26.7	25.7	25.7	25.7
170°	26.7	26.7	25.7	25.7	25.7
172.5°	26.7	26.7	26.7	26.7	26.7
175°	25.7	26.7	25.7	26.7	26.7
177.5°	25.7	25.7	25.7	26.7	27.7
180°	26.7	26.7	26.7	26.7	26.7

(END OF REPORT)