

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: P381676

Luminaire Tested: **BMK-50-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: P381676
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-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW FROSTED LENS

Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

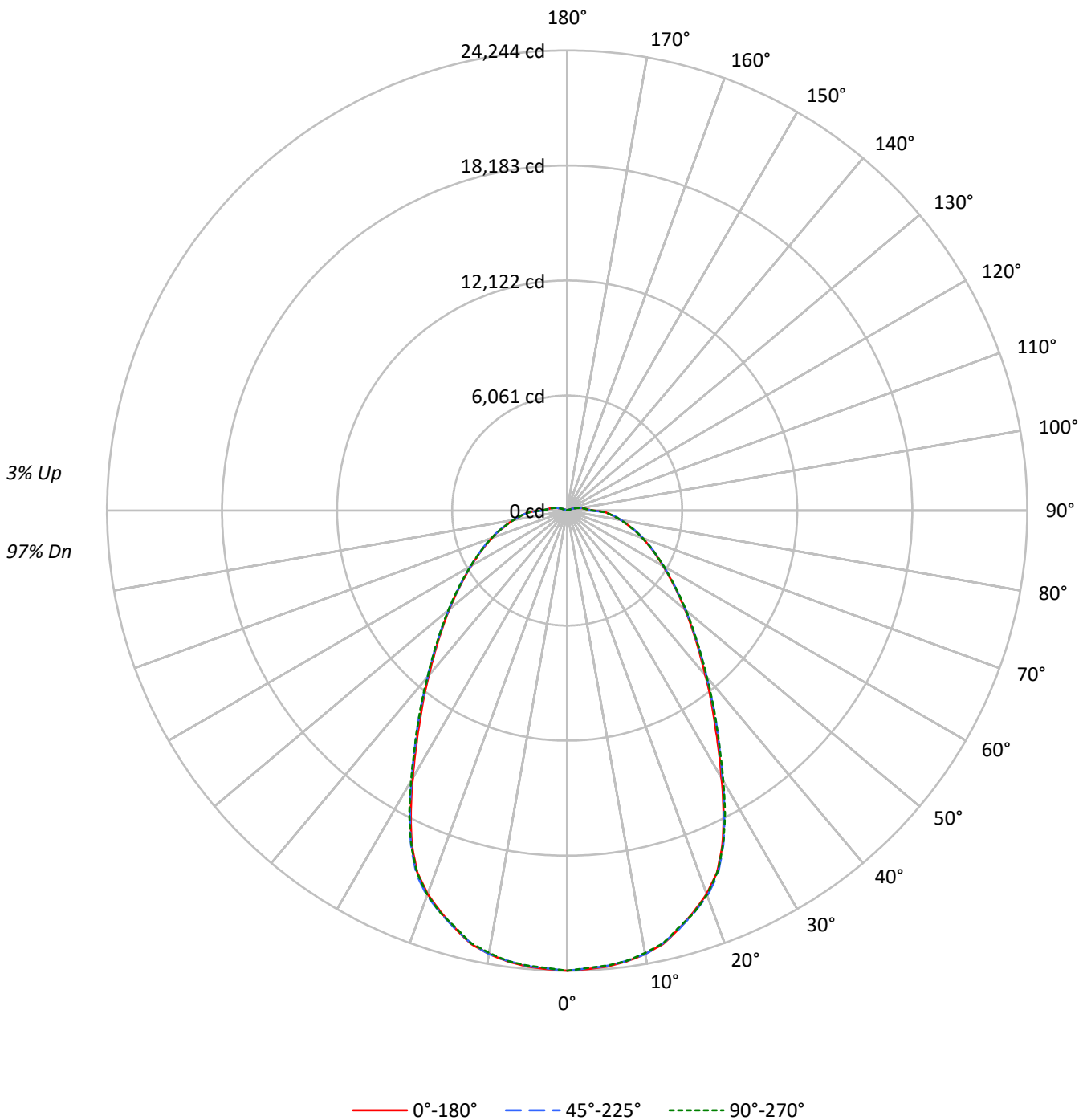
Lumens per Lamp: N/A
Luminaire Lumens: 52712.0 lumens
Efficiency: N/A
Efficacy: 158.5 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.1
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

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	50	30	10	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	99	99	99	97	
1	107	102	98	94	104	100	96	92	95	91	88	90	88	85	86	84	82	86	84	82	80	
2	98	90	83	77	95	88	81	76	84	78	74	80	75	72	76	73	70	76	73	70	67	
3	90	80	72	65	87	78	70	65	74	68	63	71	66	61	68	64	60	68	64	60	58	
4	83	71	63	56	80	70	62	56	67	60	55	64	58	54	62	57	52	62	57	52	50	
5	77	64	56	49	75	63	55	49	61	54	48	58	52	47	56	51	46	56	51	46	44	
6	71	59	50	44	69	57	49	43	55	48	43	53	47	42	51	46	42	51	46	42	39	
7	67	54	45	39	65	53	45	39	51	44	38	49	43	38	47	42	37	47	42	37	36	
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	44	38	34	32	
9	58	46	38	32	57	45	37	32	43	37	32	42	36	31	41	35	31	41	35	31	29	
10	55	42	35	30	54	42	34	30	40	34	29	39	33	29	38	33	29	38	33	29	27	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	186993	186993	186993
5°	184812	184550	184373
10°	181910	181994	181512
15°	176356	176492	175903
20°	169048	169838	169378
25°	156128	156893	156706
30°	135519	136484	136935
35°	117515	118972	119049
40°	103688	104547	104728
45°	93119	93774	93914
50°	85053	85482	85783
55°	78900	79242	79395
60°	74521	74930	75156
65°	72351	72816	72544
70°	71873	72229	71798
75°	72156	72906	72224
80°	75930	76600	75784
85°	85828	86363	85412



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2287.1	4.3
10°-20°	6413.6	12.2
20°-30°	8832.9	16.8
30°-40°	8565.8	16.3
40°-50°	7454.2	14.1
50°-60°	6200.9	11.8
60°-70°	4977.2	9.4
70°-80°	3736.1	7.1
80°-90°	2439.7	4.6
90°-100°	1102.1	2.1
100°-110°	523.0	1.0
110°-120°	83.9	0.2
120°-130°	23.3	0.0
130°-140°	25.9	0.0
140°-150°	22.6	0.0
150°-160°	13.1	0.0
160°-170°	7.9	0.0
170°-180°	2.7	0.0
0°-30°	17533.5	33.3
0°-40°	26099.3	49.5
0°-60°	39754.4	75.4
0°-90°	50907.4	96.6
90°-120°	1709.0	3.2
90°-150°	1780.8	3.4
90°-180°	1805.0	3.4
0°-180°	52712.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	24244	24244	24244	24244	24244	
5°	24119	24040	24085	24125	24062	###
15°	22792	22716	22810	22827	22734	6412
25°	19367	19366	19462	19494	19439	8804
35°	13524	13568	13692	13692	13701	8504
45°	9556	9596	9624	9638	9638	7411
55°	6868	6881	6898	6914	6911	6174
65°	4979	4994	5011	5014	4993	4951
75°	3500	3520	3537	3521	3504	3726
85°	2293	2313	2308	2278	2282	1990
90°	1400	1355	1242	1333	1362	812
95°	1002	1005	1002	981	987	770
105°	502	499	495	489	488	530
115°	60	58	58	56	55	86
125°	25	26	25	26	28	23
135°	33	34	33	34	34	26
145°	38	36	36	36	36	23
155°	26	28	26	26	26	13
165°	29	29	28	28	28	8
175°	28	29	28	29	29	3
180°	29	29	29	29	29	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	24244.1	24244.1	24244.1	24244.1	24244.1
2.5°	24183.4	24118.3	24142.6	24184.5	24121.6
5°	24119.4	24040.0	24085.2	24124.9	24062.1
7.5°	23961.7	23880.0	23936.3	24000.3	23936.3
10°	23715.7	23641.8	23726.7	23734.4	23663.8
12.5°	23384.8	23303.1	23349.5	23378.1	23351.7
15°	22792.4	22716.3	22810.0	22826.6	22733.9
17.5°	22166.9	22140.4	22209.9	22249.7	22214.4
20°	21490.7	21509.5	21591.1	21599.9	21532.6
22.5°	20628.1	20612.6	20730.7	20716.3	20655.7
25°	19367.2	19366.1	19462.1	19494.1	19438.9
27.5°	17840.5	17804.1	17942.0	17942.0	18009.3
30°	16265.3	16243.2	16381.1	16390.0	16435.2
32.5°	14815.8	14853.3	14959.2	14982.4	14979.1
35°	13524.1	13568.2	13691.8	13691.8	13700.6
37.5°	12394.5	12428.7	12502.6	12541.2	12524.7
40°	11330.0	11375.2	11423.8	11467.9	11443.6
42.5°	10390.2	10417.7	10491.6	10521.4	10490.5
45°	9556.2	9595.9	9623.5	9637.8	9637.8
47.5°	8795.1	8801.7	8850.2	8851.3	8866.8
50°	8096.8	8079.2	8137.6	8121.1	8166.3
52.5°	7457.0	7460.3	7484.6	7494.5	7525.4
55°	6867.9	6881.2	6897.7	6914.3	6911.0
57.5°	6326.3	6347.3	6370.4	6382.6	6363.8
60°	5829.9	5868.5	5861.9	5890.6	5879.6
62.5°	5385.4	5421.8	5425.1	5439.4	5424.0
65°	4979.4	4993.8	5011.4	5013.6	4992.7
67.5°	4595.5	4608.8	4634.1	4628.6	4601.1
70°	4232.6	4238.1	4253.6	4255.8	4228.2
72.5°	3871.9	3875.2	3886.2	3884.0	3865.3
75°	3500.2	3520.0	3536.6	3521.1	3503.5
77.5°	3188.0	3190.2	3202.3	3179.2	3182.5
80°	2867.0	2880.2	2892.3	2857.0	2861.5
82.5°	2580.2	2594.5	2602.2	2559.2	2564.7
85°	2293.4	2313.2	2307.7	2277.9	2282.3
87.5°	2004.3	1982.3	1966.8	1954.7	1960.2
90°	1399.8	1354.6	1242.1	1332.6	1362.3
92.5°	1123.0	1139.5	1124.1	1106.4	1123.0
95°	1001.6	1004.9	1001.6	980.7	987.3
97.5°	883.6	892.4	883.6	862.6	870.4
100°	758.9	761.1	755.6	742.4	747.9
102.5°	634.3	636.5	628.8	619.9	622.2
105°	501.9	498.6	495.3	488.7	487.6
107.5°	361.8	361.8	356.3	349.7	354.1
110°	237.2	233.9	221.7	223.9	226.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	125.8	126.9	129.1	122.4	118.0
115°	59.6	58.5	58.5	56.3	55.2
117.5°	26.5	26.5	24.3	25.4	26.5
120°	21.0	22.1	21.0	21.0	23.2
122.5°	23.2	24.3	23.2	24.3	25.4
125°	25.4	26.5	25.4	26.5	27.6
127.5°	27.6	28.7	27.6	28.7	28.7
130°	29.8	30.9	29.8	29.8	30.9
132.5°	30.9	32.0	32.0	32.0	32.0
135°	33.1	34.2	33.1	34.2	34.2
137.5°	35.3	35.3	35.3	35.3	35.3
140°	36.4	36.4	36.4	36.4	36.4
142.5°	37.5	37.5	37.5	37.5	36.4
145°	37.5	36.4	36.4	36.4	36.4
147.5°	35.3	35.3	35.3	35.3	34.2
150°	32.0	32.0	32.0	32.0	32.0
152.5°	28.7	29.8	28.7	28.7	28.7
155°	26.5	27.6	26.5	26.5	26.5
157.5°	27.6	27.6	26.5	26.5	27.6
160°	27.6	27.6	27.6	27.6	27.6
162.5°	28.7	28.7	27.6	27.6	27.6
165°	28.7	28.7	27.6	27.6	27.6
167.5°	28.7	28.7	27.6	27.6	27.6
170°	28.7	28.7	27.6	27.6	27.6
172.5°	28.7	28.7	28.7	28.7	28.7
175°	27.6	28.7	27.6	28.7	28.7
177.5°	27.6	27.6	27.6	28.7	29.8
180°	28.7	28.7	28.7	28.7	28.7

(END OF REPORT)