

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: P294519

Luminaire Tested: **BMK-12-NFL-UNV-L740-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: P294519  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-7)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-12-NFL-UNV-L740-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW FROSTED LENS  
Light Source: (528) 70 CRI 4000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

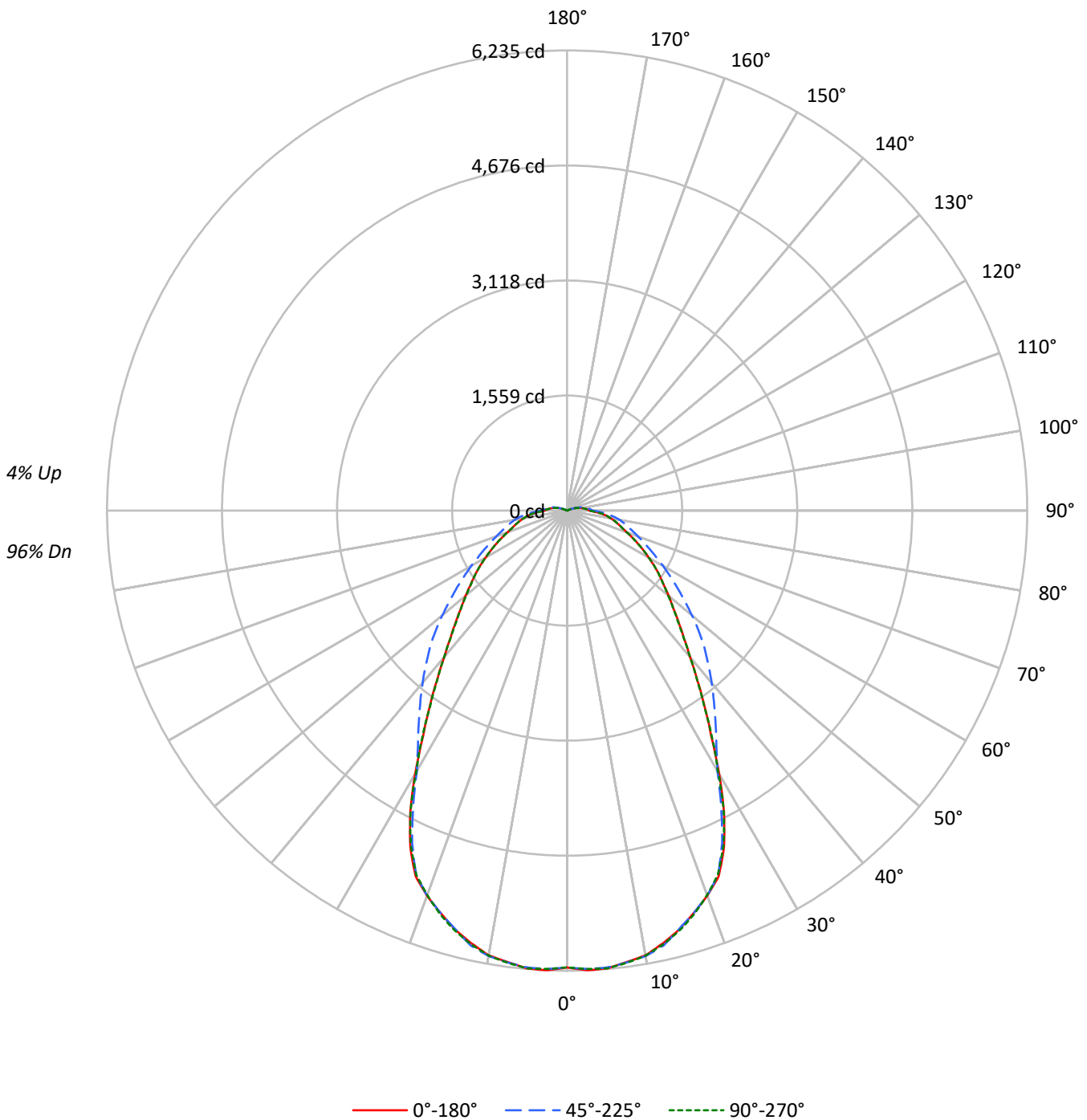
Lumens per Lamp: N/A  
Luminaire Lumens: 12966.0 lumens  
Efficiency: N/A  
Efficacy: 174.5 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 74.3  
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	0
RCR																		
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96
1	108	103	98	95	105	100	96	93	95	92	89	91	88	86	87	84	82	80
2	99	91	84	78	96	88	82	77	84	79	75	80	76	72	77	73	70	68
3	91	80	73	66	88	79	71	66	75	69	64	72	67	62	69	65	61	59
4	84	72	64	57	81	71	63	57	68	61	56	65	59	55	62	58	53	51
5	77	65	57	50	75	64	56	50	61	55	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	41
7	67	54	46	40	65	53	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	35	45	39	35	33
9	59	46	39	33	58	46	38	33	44	38	33	43	37	32	42	36	32	30
10	56	43	36	31	54	42	35	30	41	35	30	40	34	30	39	34	30	28

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	47717	47717	47717
5°	47680	47596	47680
10°	46907	46993	46931
15°	45427	45375	45555
20°	43664	43628	43572
25°	40529	40033	40365
30°	34298	33882	34076
35°	28227	30443	28144
40°	23683	27883	23709
45°	20784	25625	20626
50°	18871	23156	18742
55°	17509	20933	17501
60°	16311	19171	16352
65°	15391	17871	15303
70°	14611	17306	14551
75°	14799	17651	14808
80°	15873	19079	15881
85°	17373	20681	17583



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	589.5	4.5
10°-20°	1651.4	12.7
20°-30°	2257.6	17.4
30°-40°	2120.4	16.4
40°-50°	1828.3	14.1
50°-60°	1500.1	11.6
60°-70°	1155.8	8.9
70°-80°	846.9	6.5
80°-90°	542.7	4.2
90°-100°	293.4	2.3
100°-110°	152.0	1.2
110°-120°	27.5	0.2
120°-130°	0.4	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°	4498.4	34.7
0°-40°	6618.9	51.0
0°-60°	9947.2	76.7
0°-90°	12492.7	96.3
90°-120°	472.9	3.6
90°-150°	473.3	3.7
90°-180°	473.0	3.6
0°-180°	12966.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6190	6190	6190	6190	6190	
5°	6226	6221	6215	6212	6226	590
15°	5874	5861	5867	5864	5890	1652
25°	5030	4975	4968	4955	5010	2275
35°	3250	3366	3505	3359	3240	2045
45°	2134	2343	2631	2335	2118	1659
55°	1525	1667	1823	1665	1524	1366
65°	1060	1178	1230	1176	1054	1052
75°	718	808	857	806	719	763
85°	464	498	553	496	470	406
90°	301	325	348	329	301	173
95°	255	262	296	262	255	197
105°	138	139	163	140	138	144
115°	16	20	26	21	16	24
125°	0	0	0	0	0	0
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



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6189.7	6189.7	6189.7	6189.7	6189.7
2.5°	6234.8	6223.2	6216.9	6209.8	6215.8
5°	6225.7	6221.4	6214.7	6211.9	6225.7
7.5°	6170.7	6166.9	6175.7	6160.9	6181.6
10°	6118.3	6105.6	6129.5	6079.9	6121.4
12.5°	6003.1	6012.0	6037.3	6002.1	6018.3
15°	5873.9	5860.6	5867.2	5863.7	5890.5
17.5°	5712.7	5704.2	5712.0	5702.8	5731.0
20°	5553.6	5543.0	5549.0	5543.7	5541.9
22.5°	5364.8	5331.0	5344.8	5307.1	5340.2
25°	5030.0	4974.8	4968.4	4955.4	5009.6
27.5°	4603.7	4548.7	4517.8	4531.1	4597.0
30°	4118.5	4115.3	4068.5	4099.2	4091.8
32.5°	3636.9	3729.5	3759.8	3727.7	3658.4
35°	3250.0	3366.5	3505.2	3359.1	3240.5
37.5°	2898.6	3064.1	3266.5	3048.9	2889.4
40°	2589.1	2790.5	3048.2	2776.8	2591.9
42.5°	2339.2	2551.8	2830.3	2548.3	2336.3
45°	2133.9	2342.7	2631.0	2335.3	2117.7
47.5°	1945.9	2156.1	2421.2	2152.2	1945.5
50°	1797.3	1969.5	2205.4	1969.1	1785.0
52.5°	1648.7	1811.4	2002.6	1814.6	1642.4
55°	1524.8	1666.7	1823.0	1665.3	1524.1
57.5°	1400.5	1536.1	1653.0	1534.3	1402.3
60°	1276.6	1408.3	1500.5	1404.4	1279.8
62.5°	1163.2	1291.7	1354.4	1285.1	1166.1
65°	1059.7	1178.0	1230.5	1175.6	1053.7
67.5°	956.9	1073.5	1121.0	1074.5	953.8
70°	860.8	980.2	1019.6	978.8	857.3
72.5°	781.9	894.3	933.3	891.1	781.9
75°	718.2	808.0	856.6	805.5	718.6
77.5°	656.6	729.8	788.3	727.7	661.5
80°	599.6	656.3	720.7	649.9	599.9
82.5°	539.7	576.7	640.8	573.9	542.5
85°	464.4	497.8	552.8	496.1	470.0
87.5°	376.4	414.7	445.7	414.7	381.3
90°	301.4	325.0	347.5	328.8	301.0
92.5°	285.5	293.3	322.5	294.3	286.2
95°	255.3	262.3	296.1	261.9	255.3
97.5°	226.7	233.4	267.6	232.4	225.3
100°	196.5	202.4	235.2	204.2	195.4
102.5°	169.0	173.6	201.4	173.9	168.6
105°	137.7	139.4	162.7	140.1	138.4
107.5°	102.1	104.2	116.2	105.6	103.9
110°	68.3	70.1	78.2	71.5	70.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	38.7	40.8	51.1	41.2	38.0
115°	15.5	20.4	26.4	20.8	15.8
117.5°	4.2	7.7	9.5	7.7	4.6
120°	3.5	3.9	3.5	3.9	3.2
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)