

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: P381678

Luminaire Tested: **BMK-50-NFL-UNV-L835-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: P381678  
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-L835-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE WITH NARROW FROSTED LENS

Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

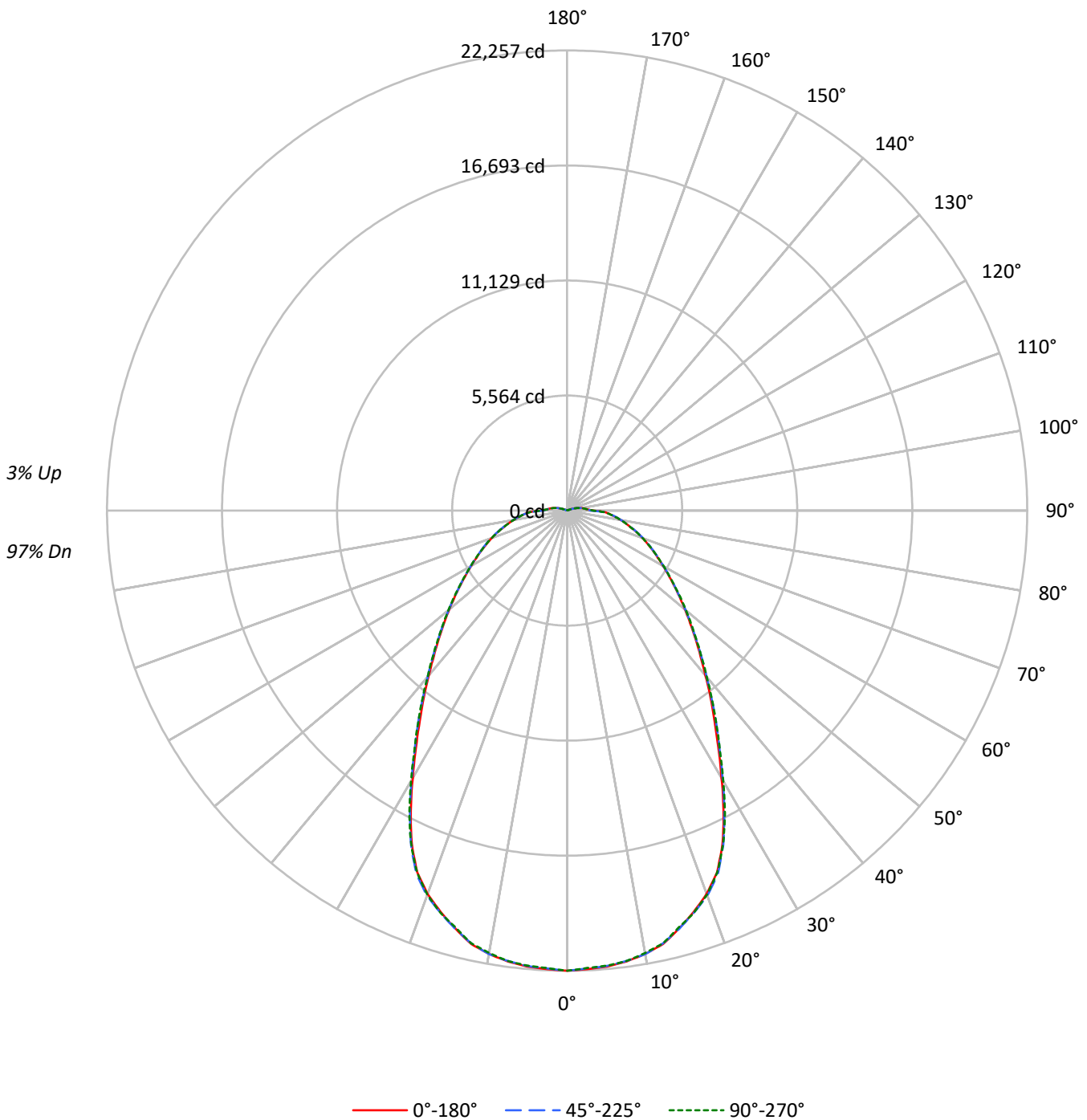
Lumens per Lamp: N/A  
Luminaire Lumens: 48391.1 lumens  
Efficiency: N/A  
Efficacy: 145.5 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.1  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 332.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	171665	171665	171665
5°	169662	169422	169259
10°	166999	167076	166633
15°	161900	162025	161484
20°	155191	155916	155494
25°	143330	144033	143861
30°	124410	125297	125710
35°	107882	109220	109290
40°	95189	95977	96144
45°	85486	86088	86216
50°	78081	78475	78751
55°	72433	72747	72887
60°	68412	68788	68995
65°	66421	66847	66597
70°	65982	66308	65913
75°	66239	66930	66303
80°	69706	70323	69571
85°	78792	79282	78410



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2099.6	4.3
10°-20°	5887.9	12.2
20°-30°	8108.8	16.8
30°-40°	7863.6	16.3
40°-50°	6843.2	14.1
50°-60°	5692.6	11.8
60°-70°	4569.2	9.4
70°-80°	3429.9	7.1
80°-90°	2239.7	4.6
90°-100°	1011.8	2.1
100°-110°	480.1	1.0
110°-120°	77.0	0.2
120°-130°	21.4	0.0
130°-140°	23.8	0.0
140°-150°	20.7	0.0
150°-160°	12.0	0.0
160°-170°	7.3	0.0
170°-180°	2.5	0.0
0°-30°	16096.3	33.3
0°-40°	23959.9	49.5
0°-60°	36495.7	75.4
0°-90°	46734.5	96.6
90°-120°	1568.9	3.2
90°-150°	1634.8	3.4
90°-180°	1657.0	3.4
0°-180°	48391.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	22257	22257	22257	22257	22257	
5°	22142	22069	22111	22147	22090	###
15°	20924	20854	20940	20956	20870	5886
25°	17780	17779	17867	17896	17846	8083
35°	12416	12456	12569	12569	12578	7807
45°	8773	8809	8835	8848	8848	6804
55°	6305	6317	6332	6348	6344	5668
65°	4571	4584	4601	4603	4583	4545
75°	3213	3232	3247	3232	3216	3421
85°	2105	2124	2118	2091	2095	1827
90°	1285	1244	1140	1223	1251	746
95°	920	923	920	900	906	707
105°	461	458	455	449	448	487
115°	55	54	54	52	51	79
125°	23	24	23	24	25	21
135°	30	31	30	31	31	23
145°	34	33	33	33	33	21
155°	24	25	24	24	24	12
165°	26	26	25	25	25	7
175°	25	26	25	26	26	2
180°	26	26	26	26	26	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	22256.8	22256.8	22256.8	22256.8	22256.8
2.5°	22201.1	22141.3	22163.6	22202.1	22144.4
5°	22142.3	22069.4	22110.9	22147.4	22089.7
7.5°	21997.5	21922.6	21974.2	22033.0	21974.2
10°	21771.7	21703.8	21781.8	21788.9	21724.1
12.5°	21467.9	21392.9	21435.5	21461.8	21437.5
15°	20924.1	20854.2	20940.3	20955.5	20870.4
17.5°	20349.9	20325.6	20389.4	20425.8	20393.4
20°	19729.1	19746.3	19821.3	19829.4	19767.6
22.5°	18937.2	18923.0	19031.4	19018.2	18962.5
25°	17779.7	17778.7	17866.8	17896.1	17845.5
27.5°	16378.1	16344.7	16471.3	16471.3	16533.1
30°	14932.0	14911.8	15038.4	15046.5	15088.0
32.5°	13601.4	13635.8	13733.0	13754.3	13751.2
35°	12415.5	12456.0	12569.4	12569.4	12577.5
37.5°	11378.5	11409.9	11477.8	11513.2	11498.0
40°	10401.3	10442.8	10487.4	10527.9	10505.6
42.5°	9538.5	9563.8	9631.6	9659.0	9630.6
45°	8772.9	8809.3	8834.7	8847.8	8847.8
47.5°	8074.1	8080.2	8124.8	8125.8	8140.0
50°	7433.1	7416.9	7470.6	7455.4	7496.9
52.5°	6845.7	6848.8	6871.1	6880.2	6908.5
55°	6305.0	6317.1	6332.3	6347.5	6344.5
57.5°	5807.7	5827.0	5848.2	5859.4	5842.2
60°	5352.0	5387.5	5381.4	5407.7	5397.6
62.5°	4943.9	4977.3	4980.4	4993.5	4979.4
65°	4571.3	4584.4	4600.6	4602.6	4583.4
67.5°	4218.8	4231.0	4254.3	4249.2	4223.9
70°	3885.7	3890.7	3904.9	3906.9	3881.6
72.5°	3554.5	3557.6	3567.7	3565.7	3548.4
75°	3213.2	3231.5	3246.7	3232.5	3216.3
77.5°	2926.7	2928.7	2939.8	2918.6	2921.6
80°	2632.0	2644.1	2655.3	2622.9	2626.9
82.5°	2368.7	2381.8	2388.9	2349.4	2354.5
85°	2105.4	2123.6	2118.5	2091.2	2095.2
87.5°	1840.0	1819.8	1805.6	1794.5	1799.5
90°	1285.1	1243.6	1140.3	1223.3	1250.7
92.5°	1030.9	1046.1	1031.9	1015.7	1030.9
95°	919.5	922.6	919.5	900.3	906.4
97.5°	811.2	819.3	811.2	791.9	799.0
100°	696.7	698.8	693.7	681.5	686.6
102.5°	582.3	584.3	577.2	569.1	571.2
105°	460.8	457.7	454.7	448.6	447.6
107.5°	332.2	332.2	327.1	321.0	325.1
110°	217.7	214.7	203.5	205.6	207.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	115.4	116.5	118.5	112.4	108.4
115°	54.7	53.7	53.7	51.6	50.6
117.5°	24.3	24.3	22.3	23.3	24.3
120°	19.2	20.3	19.2	19.2	21.3
122.5°	21.3	22.3	21.3	22.3	23.3
125°	23.3	24.3	23.3	24.3	25.3
127.5°	25.3	26.3	25.3	26.3	26.3
130°	27.3	28.4	27.3	27.3	28.4
132.5°	28.4	29.4	29.4	29.4	29.4
135°	30.4	31.4	30.4	31.4	31.4
137.5°	32.4	32.4	32.4	32.4	32.4
140°	33.4	33.4	33.4	33.4	33.4
142.5°	34.4	34.4	34.4	34.4	33.4
145°	34.4	33.4	33.4	33.4	33.4
147.5°	32.4	32.4	32.4	32.4	31.4
150°	29.4	29.4	29.4	29.4	29.4
152.5°	26.3	27.3	26.3	26.3	26.3
155°	24.3	25.3	24.3	24.3	24.3
157.5°	25.3	25.3	24.3	24.3	25.3
160°	25.3	25.3	25.3	25.3	25.3
162.5°	26.3	26.3	25.3	25.3	25.3
165°	26.3	26.3	25.3	25.3	25.3
167.5°	26.3	26.3	25.3	25.3	25.3
170°	26.3	26.3	25.3	25.3	25.3
172.5°	26.3	26.3	26.3	26.3	26.3
175°	25.3	26.3	25.3	26.3	26.3
177.5°	25.3	25.3	25.3	26.3	27.3
180°	26.3	26.3	26.3	26.3	26.3

(END OF REPORT)