

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: P294459

Luminaire Tested: **BMK-18-WFL-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: P294459
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-103-3)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: BMK-18-WFL-UNV-L740-CD-U
Description: BENCHMARK HIGHBAY LED FIXTURE
WITH WIDE 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: 19716.0 lumens
Efficiency: N/A
Efficacy: 173.3 lumens/watt
Spacing Criteria (0/90/45): 1.7 / 1.7 / 1.72
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')
CIE Type: Direct

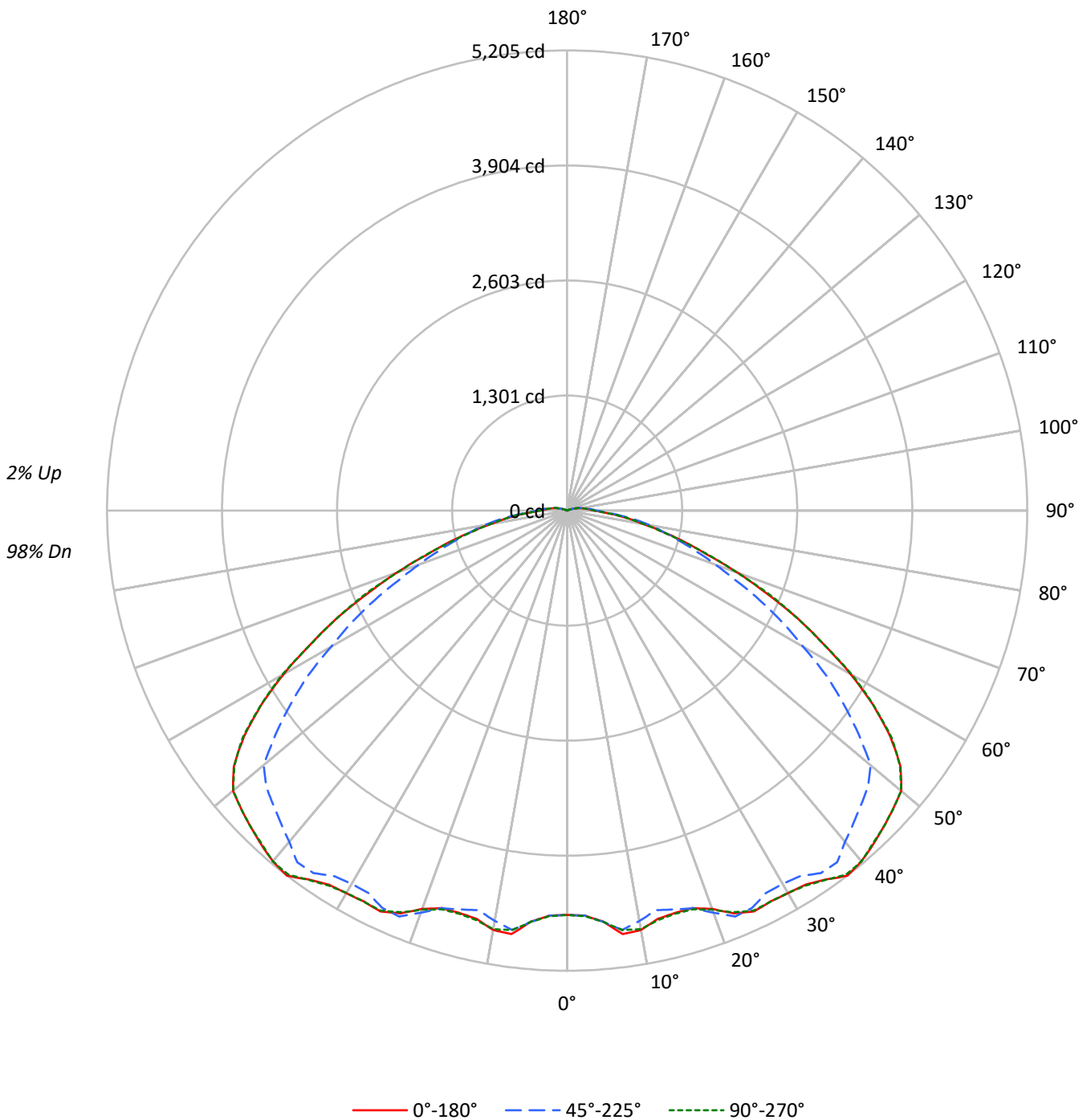
Input Watts (W): 113.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P294459

CATALOG NUMBER: BMK-18-WFL-UNV-L740-CD-U

Luminous Intensity Polar Plot





TEST NUMBER: P294459

CATALOG NUMBER: BMK-18-WFL-UNV-L740-CD-U

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	119	119	119	119	116	116	116	116	110	110	110		105	105	105		100	100	100	98
1	107	102	97	93	104	100	95	92	95	91	88		91	88	85		87	84	82	80
2	97	88	81	75	94	86	79	74	82	76	72		78	74	70		75	71	68	65
3	88	77	68	61	85	75	67	60	71	65	59		68	62	58		65	61	56	54
4	80	67	58	51	77	66	57	50	63	55	49		60	54	48		58	52	47	45
5	73	59	50	43	71	58	49	43	56	48	42		53	47	41		51	45	41	38
6	67	53	44	37	65	52	43	37	50	42	36		48	41	36		46	40	35	33
7	62	48	38	32	60	47	38	32	45	37	31		43	36	31		42	35	31	29
8	57	43	34	28	56	42	34	28	41	33	28		39	32	27		38	32	27	25
9	53	39	31	25	52	39	30	25	37	30	25		36	29	24		35	29	24	22
10	50	36	28	22	48	35	28	22	34	27	22		33	27	22		32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	35257	35257	35257
5°	35733	35758	35754
10°	36933	36134	36846
15°	36433	36122	36504
20°	37700	38055	37773
25°	40301	39933	40222
30°	41616	40594	41571
35°	44252	43464	44294
40°	47378	44738	47367
45°	49297	45814	49302
50°	51797	47037	51768
55°	51268	43842	51467
60°	47371	39434	47635
65°	41645	35015	41605
70°	34777	30230	34546
75°	28457	27000	27863
80°	23151	24962	23437
85°	20232	21997	20535



TEST NUMBER: P294459

CATALOG NUMBER: BMK-18-WFL-UNV-L740-CD-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	450.9	2.3
10°-20°	1334.7	6.8
20°-30°	2270.2	11.5
30°-40°	3161.8	16.0
40°-50°	3783.3	19.2
50°-60°	3679.0	18.7
60°-70°	2610.0	13.2
70°-80°	1421.3	7.2
80°-90°	623.0	3.2
90°-100°	258.8	1.3
100°-110°	106.3	0.5
110°-120°	16.3	0.1
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°	4055.8	20.6
0°-40°	7217.6	36.6
0°-60°	14679.9	74.5
0°-90°	19334.1	98.1
90°-120°	381.5	1.9
90°-150°	381.9	1.9
90°-180°	382.0	1.9
0°-180°	19716.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4573	4573	4573	4573	4573	
5°	4666	4658	4669	4660	4668	453
15°	4711	4651	4671	4642	4720	1343
25°	5002	4872	4956	4877	4992	2295
35°	5095	5099	5004	5083	5100	3208
45°	5061	4897	4704	4903	5062	3916
55°	4465	4130	3818	4138	4482	3948
65°	2867	2618	2411	2621	2865	2830
75°	1381	1294	1310	1298	1352	1480
85°	541	540	588	544	549	511
90°	302	325	332	324	305	173
95°	221	232	248	235	223	167
105°	96	97	96	98	97	105
115°	9	12	14	11	9	15
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



TEST NUMBER: P294459

CATALOG NUMBER: BMK-18-WFL-UNV-L740-CD-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4573.4	4573.4	4573.4	4573.4	4573.4
2.5°	4584.8	4582.1	4585.3	4586.4	4591.3
5°	4665.8	4658.2	4669.0	4659.8	4668.5
7.5°	4831.5	4793.5	4784.3	4781.5	4785.9
10°	4817.4	4790.2	4713.1	4789.2	4806.0
12.5°	4729.9	4701.6	4629.4	4698.9	4745.7
15°	4710.9	4651.1	4670.7	4642.4	4720.1
17.5°	4713.6	4660.3	4714.7	4656.0	4728.3
20°	4795.1	4760.9	4840.2	4757.1	4804.4
22.5°	4931.0	4871.2	4969.0	4852.7	4918.0
25°	5001.7	4872.3	4956.0	4877.2	4991.9
27.5°	4983.2	4897.3	4873.9	4896.8	4985.9
30°	4997.3	4948.9	4874.5	4940.8	4991.9
32.5°	5015.8	4987.0	4902.7	4983.7	5026.7
35°	5095.1	5098.9	5004.4	5082.6	5100.0
37.5°	5204.9	5084.8	5014.7	5076.7	5187.5
40°	5179.4	5018.0	4890.8	5017.4	5178.3
42.5°	5122.8	4973.9	4793.0	4976.1	5113.6
45°	5061.4	4896.8	4703.8	4902.7	5062.0
47.5°	4998.9	4867.4	4616.3	4861.4	4998.9
50°	4933.2	4698.4	4479.9	4699.5	4930.5
52.5°	4754.4	4451.6	4154.9	4451.6	4745.7
55°	4464.7	4129.9	3818.0	4138.1	4482.1
57.5°	4111.4	3816.3	3477.2	3812.5	4115.8
60°	3707.6	3403.8	3086.4	3425.6	3728.3
62.5°	3269.0	3052.7	2752.2	3033.7	3266.3
65°	2867.4	2618.5	2410.9	2621.2	2864.7
67.5°	2433.7	2237.0	2066.3	2233.7	2472.8
70°	2048.9	1884.8	1781.0	1884.8	2035.3
72.5°	1667.9	1584.8	1532.6	1581.5	1686.4
75°	1381.0	1293.5	1310.3	1297.8	1352.2
77.5°	1102.7	1059.2	1121.7	1059.8	1095.7
80°	874.5	865.2	942.9	862.5	885.3
82.5°	701.1	690.8	764.1	687.5	708.7
85°	540.8	539.7	588.0	544.0	548.9
87.5°	399.5	413.6	435.9	415.8	400.0
90°	301.6	325.0	332.1	324.5	305.4
92.5°	258.2	273.9	284.2	273.4	262.5
95°	220.7	232.1	248.4	234.8	223.4
97.5°	187.0	197.8	209.2	197.8	188.6
100°	155.4	163.0	173.9	164.1	157.1
102.5°	128.3	129.9	135.3	132.1	127.7
105°	96.2	97.3	95.7	97.8	96.7
107.5°	69.6	68.5	64.1	70.1	69.0
110°	43.5	43.5	42.4	44.0	43.5



TEST NUMBER: P294459

CATALOG NUMBER: BMK-18-WFL-UNV-L740-CD-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	22.8	24.5	26.6	24.5	23.9
115°	8.7	12.0	14.1	11.4	9.2
117.5°	3.8	5.4	6.0	5.4	3.8
120°	3.3	3.8	3.3	3.3	3.3
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)