

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: FAIL-SAFE

Report Number: P310719

Luminaire Tested: **24FCZ2-40-UNV-L82765-CA08-W2A-U-4500K**

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: P310719
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L82765-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 4500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3760.0 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

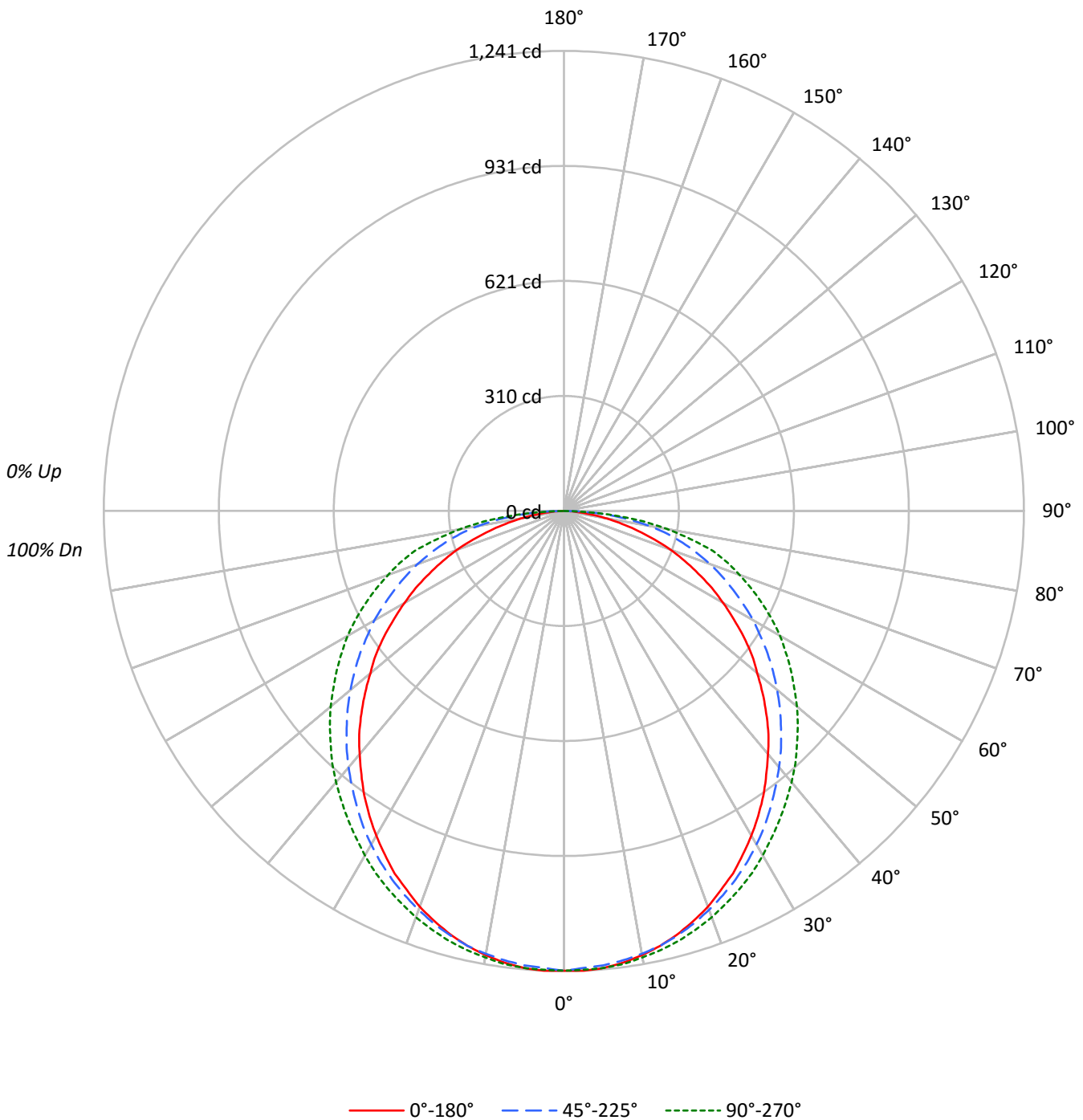
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1668	1668	1668
5°	1671	1661	1671
10°	1662	1657	1670
15°	1647	1651	1672
20°	1627	1640	1670
25°	1602	1628	1669
30°	1572	1615	1667
35°	1541	1598	1668
40°	1505	1586	1678
45°	1469	1576	1693
50°	1426	1572	1718
55°	1390	1574	1753
60°	1336	1588	1813
65°	1275	1605	1879
70°	1207	1654	1983
75°	1077	1725	2166
80°	918	1827	2214
85°	655	1811	2118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.4	3.1
10°-20°	335.6	8.9
20°-30°	506.8	13.5
30°-40°	610.8	16.2
40°-50°	641.3	17.1
50°-60°	600.0	16.0
60°-70°	495.4	13.2
70°-80°	337.6	9.0
80°-90°	115.1	3.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	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°	959.7	25.5
0°-40°	1570.6	41.8
0°-60°	2811.8	74.8
0°-90°	3760.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3760.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1238	1236	1230	1238	1238	117
15°	1183	1184	1185	1198	1200	333
25°	1079	1084	1097	1118	1124	496
35°	938	948	973	1006	1016	586
45°	772	788	828	873	890	596
55°	593	616	671	726	747	529
65°	400	434	504	568	590	397
75°	207	254	332	394	417	221
85°	42	84	117	132	137	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1240.0	1240.0	1240.0	1240.0	1240.0
2.5°	1241.3	1240.0	1233.8	1240.0	1238.8
5°	1237.5	1236.3	1230.0	1237.5	1237.5
7.5°	1228.8	1228.8	1222.6	1231.3	1232.5
10°	1216.3	1216.3	1212.6	1222.6	1222.6
12.5°	1201.3	1201.3	1201.3	1211.3	1212.6
15°	1182.6	1183.9	1185.1	1197.6	1200.1
17.5°	1160.2	1162.7	1166.4	1181.4	1183.9
20°	1136.5	1139.0	1145.2	1162.7	1166.4
22.5°	1106.5	1112.8	1121.5	1141.5	1145.2
25°	1079.1	1084.1	1096.6	1117.8	1124.0
27.5°	1045.4	1052.9	1069.1	1091.6	1100.3
30°	1011.7	1019.2	1039.2	1065.4	1072.9
32.5°	975.5	986.8	1008.0	1035.4	1044.2
35°	938.1	948.1	973.1	1005.5	1015.5
37.5°	897.0	910.7	938.1	973.1	985.5
40°	857.0	872.0	903.2	940.6	955.6
42.5°	817.1	832.1	867.0	909.4	924.4
45°	772.2	788.4	828.3	873.3	889.5
47.5°	727.3	747.3	790.9	838.3	855.8
50°	681.1	703.6	751.0	800.9	820.9
52.5°	640.0	661.2	711.1	764.7	783.4
55°	592.6	616.3	671.2	726.0	747.3
57.5°	543.9	570.1	628.7	688.6	709.8
60°	496.5	525.2	590.1	649.9	673.7
62.5°	450.3	479.0	546.4	608.8	632.5
65°	400.4	434.1	504.0	567.6	590.1
67.5°	353.0	389.2	462.8	525.2	547.7
70°	306.9	341.8	420.4	481.5	504.0
72.5°	257.0	296.9	375.5	439.1	462.8
75°	207.1	254.5	331.8	394.2	416.7
77.5°	160.9	209.6	286.9	338.1	349.3
80°	118.5	168.4	235.8	272.0	285.7
82.5°	76.1	126.0	179.6	205.8	217.1
85°	42.4	83.6	117.3	132.2	137.2
87.5°	17.5	36.2	47.4	53.6	53.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)