

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: P311487

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CA08-W2A-U-5700K**

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: P311487
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L82765-S-CA08-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5700K 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: 4539.0 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

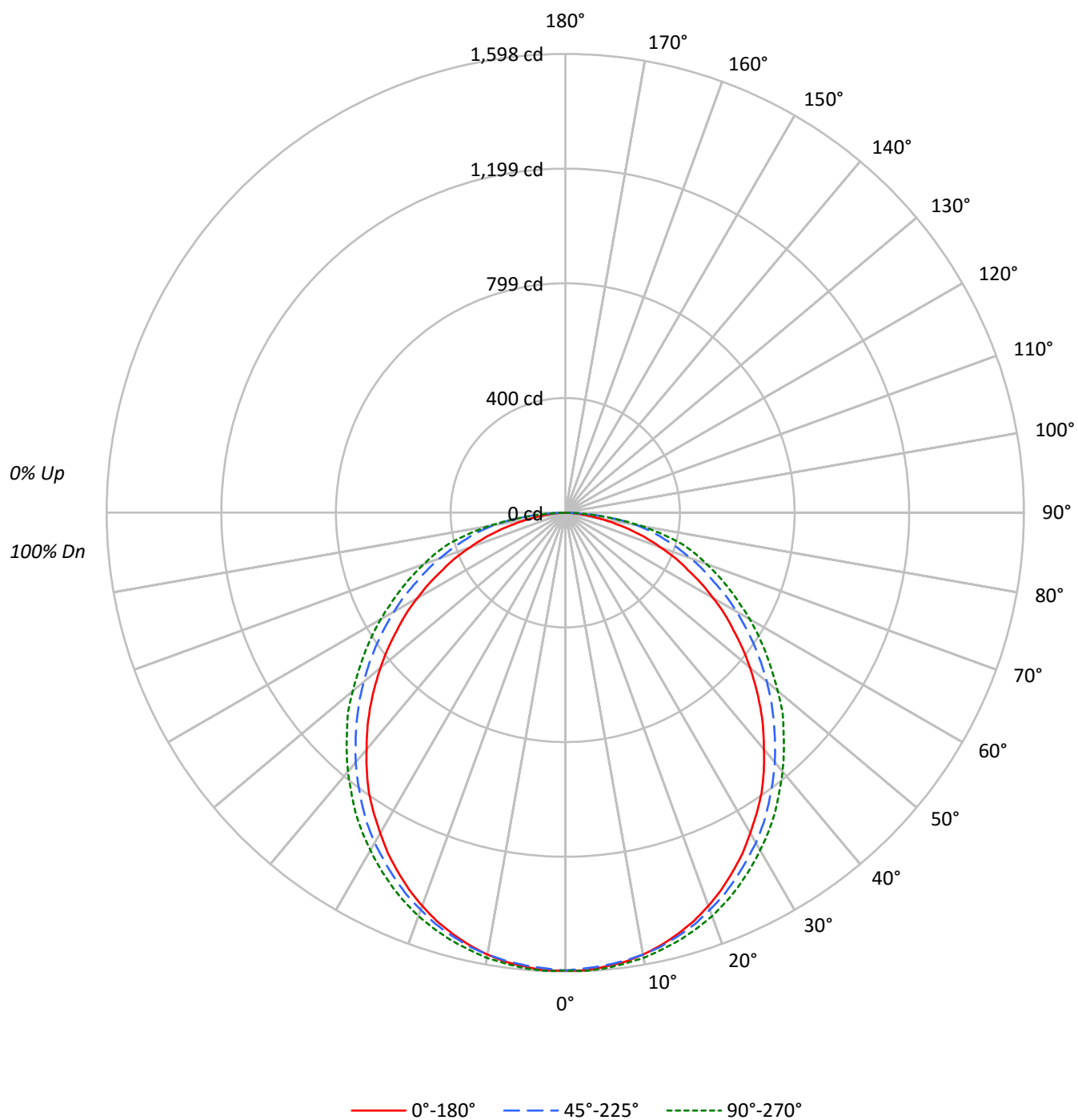
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2146	2146	2146
5°	2144	2138	2152
10°	2135	2135	2151
15°	2115	2125	2147
20°	2087	2108	2141
25°	2048	2087	2128
30°	2002	2063	2110
35°	1958	2030	2093
40°	1892	1995	2069
45°	1830	1956	2046
50°	1759	1919	2022
55°	1681	1884	2002
60°	1602	1855	1998
65°	1501	1822	2011
70°	1389	1832	2065
75°	1244	1866	2181
80°	1006	1977	2134
85°	756	1737	1692



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.0	3.3
10°-20°	431.3	9.5
20°-30°	648.4	14.3
30°-40°	772.4	17.0
40°-50°	790.5	17.4
50°-60°	711.7	15.7
60°-70°	558.9	12.3
70°-80°	362.7	8.0
80°-90°	112.2	2.5
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°	1230.7	27.1
0°-40°	2003.1	44.1
0°-60°	3505.2	77.2
0°-90°	4539.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4539.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1595	1595	1595	1595	1595	
5°	1587	1590	1583	1592	1593	151
15°	1518	1522	1525	1538	1541	428
25°	1380	1391	1406	1429	1433	636
35°	1192	1207	1236	1266	1274	744
45°	962	985	1028	1067	1076	741
55°	717	748	803	845	854	642
65°	472	508	572	620	632	469
75°	239	286	359	408	420	253
85°	49	91	112	110	110	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1594.6	1594.6	1594.6	1594.6	1594.6
2.5°	1596.0	1596.0	1588.8	1596.0	1597.5
5°	1587.4	1590.3	1583.0	1591.7	1593.1
7.5°	1578.7	1578.7	1574.4	1583.0	1584.5
10°	1562.9	1564.3	1562.9	1573.0	1574.4
12.5°	1542.7	1545.6	1547.0	1557.1	1558.5
15°	1518.2	1522.5	1525.4	1538.4	1541.2
17.5°	1490.8	1495.1	1502.3	1516.7	1519.6
20°	1457.6	1463.4	1472.0	1490.8	1495.1
22.5°	1421.6	1427.3	1441.8	1459.1	1466.3
25°	1379.8	1391.3	1405.7	1428.8	1433.1
27.5°	1337.9	1348.0	1366.8	1391.3	1397.1
30°	1288.9	1304.8	1327.9	1352.4	1358.1
32.5°	1241.4	1257.2	1284.6	1310.6	1317.8
35°	1192.3	1206.7	1235.6	1265.9	1274.5
37.5°	1136.1	1154.8	1186.6	1216.8	1225.5
40°	1077.0	1100.1	1136.1	1167.8	1177.9
42.5°	1020.8	1045.3	1081.3	1115.9	1127.5
45°	961.7	984.7	1028.0	1066.9	1075.5
47.5°	901.1	927.0	973.2	1012.1	1026.5
50°	840.5	867.9	917.0	957.3	966.0
52.5°	780.0	808.8	860.7	904.0	908.3
55°	716.6	748.3	803.1	844.9	853.5
57.5°	658.9	686.3	745.4	788.6	798.7
60°	595.4	625.7	689.2	729.5	742.5
62.5°	534.9	566.6	632.9	673.3	684.8
65°	471.5	507.5	572.4	620.0	631.5
67.5°	416.7	451.3	520.5	566.6	578.1
70°	353.2	392.2	465.7	513.3	524.8
72.5°	298.4	338.8	412.3	458.5	475.8
75°	239.3	285.5	359.0	408.0	419.6
77.5°	181.7	235.0	310.0	347.5	347.5
80°	129.8	186.0	255.2	272.5	275.4
82.5°	85.1	139.9	188.9	187.4	187.4
85°	49.0	90.8	112.5	109.6	109.6
87.5°	18.7	37.5	40.4	40.4	38.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)