

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: P311493

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CA125-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: P311493  
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-CA125-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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**

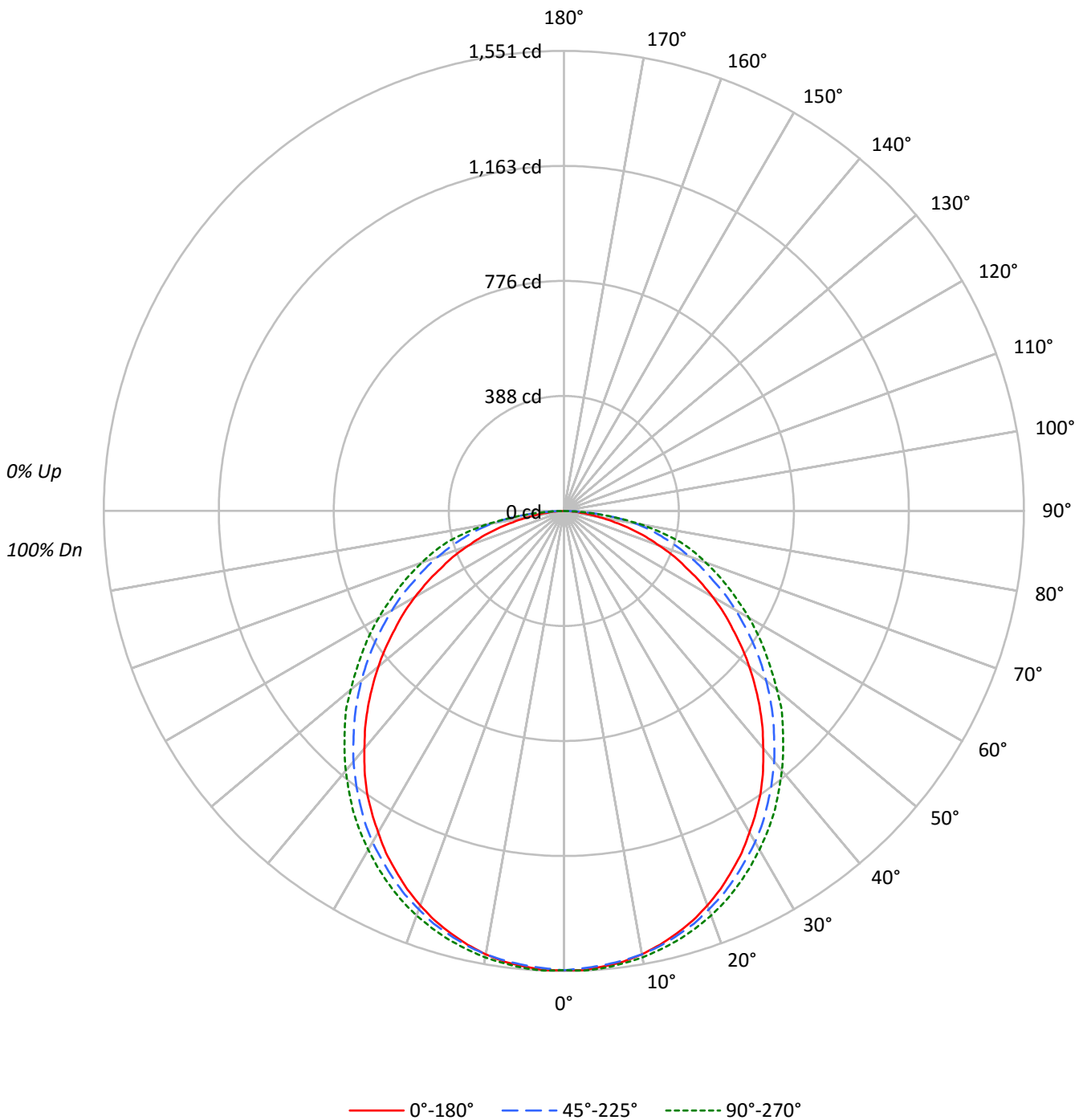
Lumens per Lamp: N/A  
Luminaire Lumens: 4407.0 lumens  
Efficiency: N/A  
Efficacy: 115.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 38.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	2083	2083	2083
5°	2082	2076	2089
10°	2073	2073	2088
15°	2053	2063	2084
20°	2026	2046	2078
25°	1989	2026	2066
30°	1944	2003	2049
35°	1902	1971	2032
40°	1837	1937	2009
45°	1777	1899	1987
50°	1708	1864	1963
55°	1632	1829	1944
60°	1556	1801	1940
65°	1457	1769	1952
70°	1349	1779	2004
75°	1208	1812	2117
80°	976	1920	2072
85°	735	1686	1643



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.6	3.3
10°-20°	418.8	9.5
20°-30°	629.5	14.3
30°-40°	749.9	17.0
40°-50°	767.5	17.4
50°-60°	691.0	15.7
60°-70°	542.6	12.3
70°-80°	352.2	8.0
80°-90°	108.9	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°	1194.9	27.1
0°-40°	1944.8	44.1
0°-60°	3403.3	77.2
0°-90°	4407.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4407.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1548	1548	1548	1548	1548	
5°	1541	1544	1537	1545	1547	146
15°	1474	1478	1481	1494	1496	416
25°	1340	1351	1365	1387	1391	617
35°	1158	1172	1200	1229	1237	722
45°	934	956	998	1036	1044	720
55°	696	726	780	820	829	624
65°	458	493	556	602	613	456
75°	232	277	349	396	407	246
85°	48	88	109	106	106	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1548.2	1548.2	1548.2	1548.2	1548.2
2.5°	1549.6	1549.6	1542.6	1549.6	1551.0
5°	1541.2	1544.0	1537.0	1545.4	1546.8
7.5°	1532.8	1532.8	1528.6	1537.0	1538.4
10°	1517.4	1518.8	1517.4	1527.2	1528.6
12.5°	1497.8	1500.6	1502.0	1511.8	1513.2
15°	1474.0	1478.2	1481.0	1493.6	1496.4
17.5°	1447.4	1451.6	1458.6	1472.6	1475.4
20°	1415.2	1420.8	1429.2	1447.4	1451.6
22.5°	1380.2	1385.8	1399.8	1416.6	1423.6
25°	1339.6	1350.8	1364.8	1387.2	1391.4
27.5°	1299.0	1308.8	1327.0	1350.8	1356.4
30°	1251.4	1266.8	1289.2	1313.0	1318.6
32.5°	1205.3	1220.6	1247.2	1272.4	1279.4
35°	1157.7	1171.7	1199.7	1229.0	1237.4
37.5°	1103.1	1121.3	1152.1	1181.5	1189.9
40°	1045.7	1068.1	1103.1	1133.9	1143.7
42.5°	991.1	1014.9	1049.9	1083.5	1094.7
45°	933.7	956.1	998.1	1035.9	1044.3
47.5°	874.9	900.1	944.9	982.7	996.7
50°	816.1	842.7	890.3	929.5	937.9
52.5°	757.3	785.3	835.7	877.7	881.9
55°	695.7	726.5	779.7	820.3	828.7
57.5°	639.7	666.3	723.7	765.7	775.5
60°	578.1	607.5	669.1	708.3	720.9
62.5°	519.3	550.1	614.5	653.7	664.9
65°	457.7	492.7	555.7	601.9	613.1
67.5°	404.5	438.1	505.3	550.1	561.3
70°	343.0	380.8	452.1	498.3	509.5
72.5°	289.8	329.0	400.4	445.1	461.9
75°	232.4	277.2	348.6	396.2	407.3
77.5°	176.4	228.2	301.0	337.4	337.4
80°	126.0	180.6	247.8	264.6	267.4
82.5°	82.6	135.8	183.4	182.0	182.0
85°	47.6	88.2	109.2	106.4	106.4
87.5°	18.2	36.4	39.2	39.2	37.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)