

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: P311409

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP125-W2A-U-3000K**

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: P311409  
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: 24FCZ2-40-UNV-L82765-S-CP125-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET  
Light Source: (168) 3000K 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**

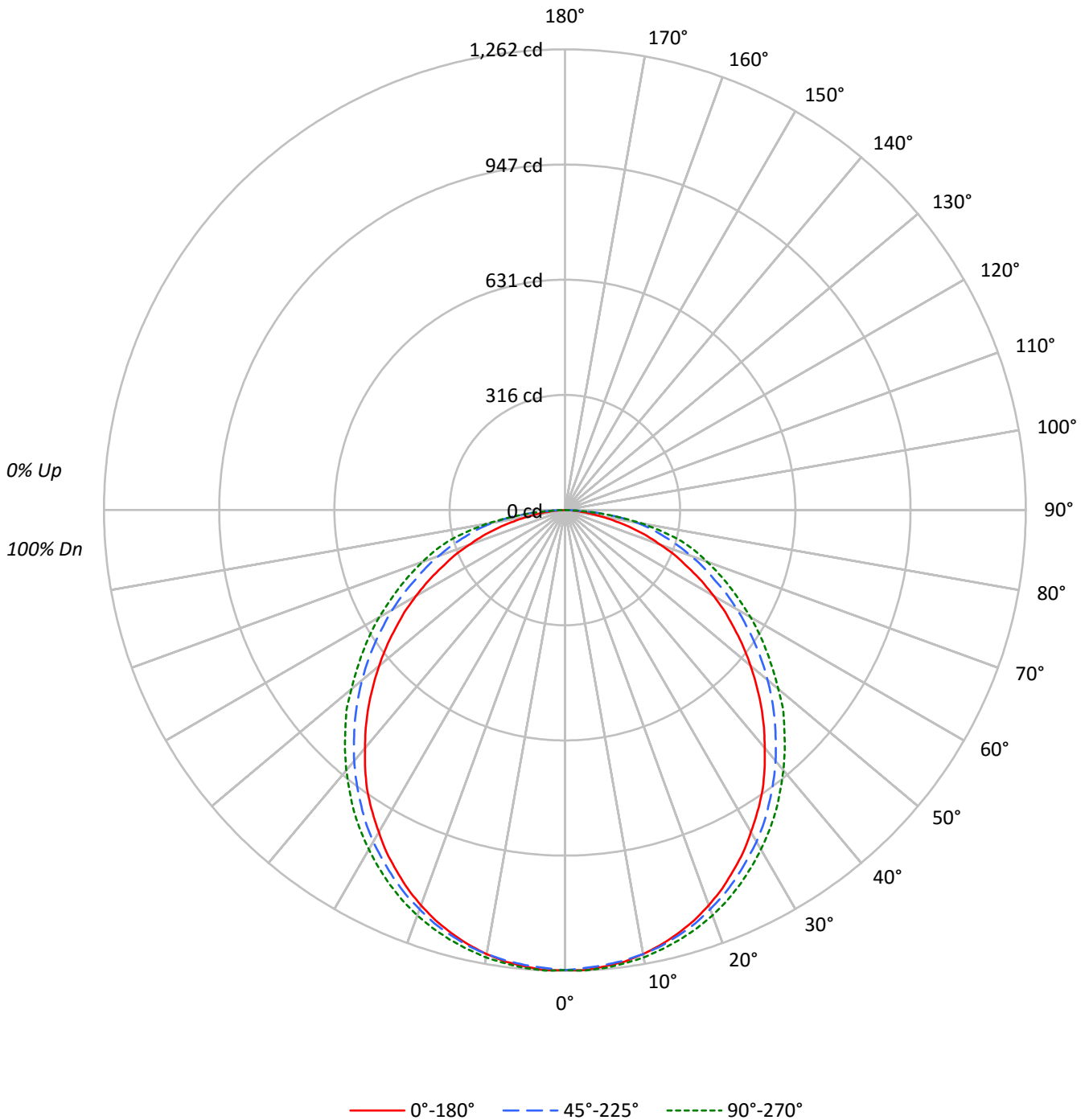
Lumens per Lamp: N/A  
Luminaire Lumens: 3587.0 lumens  
Efficiency: N/A  
Efficacy: 110.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 32.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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	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°	1695	1695	1695
5°	1694	1690	1700
10°	1687	1687	1700
15°	1671	1679	1697
20°	1649	1666	1692
25°	1619	1649	1681
30°	1583	1630	1668
35°	1548	1604	1654
40°	1495	1577	1635
45°	1446	1546	1617
50°	1390	1517	1598
55°	1328	1489	1582
60°	1266	1466	1579
65°	1186	1440	1589
70°	1098	1448	1631
75°	983	1475	1724
80°	794	1563	1686
85°	597	1372	1337



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.3	3.3
10°-20°	340.9	9.5
20°-30°	512.4	14.3
30°-40°	610.4	17.0
40°-50°	624.7	17.4
50°-60°	562.4	15.7
60°-70°	441.7	12.3
70°-80°	286.6	8.0
80°-90°	88.7	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°	972.6	27.1
0°-40°	1583.0	44.1
0°-60°	2770.0	77.2
0°-90°	3587.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3587.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1260	1260	1260	1260	1260	
5°	1254	1257	1251	1258	1259	119
15°	1200	1203	1205	1216	1218	338
25°	1090	1100	1111	1129	1132	502
35°	942	954	976	1000	1007	588
45°	760	778	812	843	850	586
55°	566	591	635	668	674	508
65°	373	401	452	490	499	371
75°	189	226	284	322	332	200
85°	39	72	89	87	87	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1260.1	1260.1	1260.1	1260.1	1260.1
2.5°	1261.3	1261.3	1255.6	1261.3	1262.4
5°	1254.4	1256.7	1251.0	1257.9	1259.0
7.5°	1247.6	1247.6	1244.2	1251.0	1252.2
10°	1235.1	1236.2	1235.1	1243.0	1244.2
12.5°	1219.1	1221.4	1222.5	1230.5	1231.7
15°	1199.8	1203.2	1205.4	1215.7	1218.0
17.5°	1178.1	1181.5	1187.2	1198.6	1200.9
20°	1151.9	1156.5	1163.3	1178.1	1181.5
22.5°	1123.4	1128.0	1139.4	1153.0	1158.7
25°	1090.4	1099.5	1110.9	1129.1	1132.5
27.5°	1057.3	1065.3	1080.1	1099.5	1104.0
30°	1018.6	1031.1	1049.4	1068.7	1073.3
32.5°	981.0	993.5	1015.2	1035.7	1041.4
35°	942.3	953.6	976.4	1000.4	1007.2
37.5°	897.8	912.6	937.7	961.6	968.5
40°	851.1	869.3	897.8	922.9	930.9
42.5°	806.7	826.0	854.5	881.9	891.0
45°	760.0	778.2	812.4	843.1	850.0
47.5°	712.1	732.6	769.1	799.8	811.2
50°	664.2	685.9	724.6	756.5	763.4
52.5°	616.4	639.2	680.2	714.4	717.8
55°	566.3	591.3	634.6	667.7	674.5
57.5°	520.7	542.3	589.1	623.2	631.2
60°	470.6	494.5	544.6	576.5	586.8
62.5°	422.7	447.8	500.2	532.1	541.2
65°	372.6	401.1	452.3	489.9	499.0
67.5°	329.3	356.6	411.3	447.8	456.9
70°	279.1	309.9	368.0	405.6	414.7
72.5°	235.8	267.8	325.9	362.3	376.0
75°	189.1	225.6	283.7	322.4	331.6
77.5°	143.6	185.7	245.0	274.6	274.6
80°	102.5	147.0	201.7	215.3	217.6
82.5°	67.2	110.5	149.3	148.1	148.1
85°	38.7	71.8	88.9	86.6	86.6
87.5°	14.8	29.6	31.9	31.9	30.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)