

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: P311410

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP125-W2A-U-3500K**

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: P311410  
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-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET  
Light Source: (168) 3500K 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**

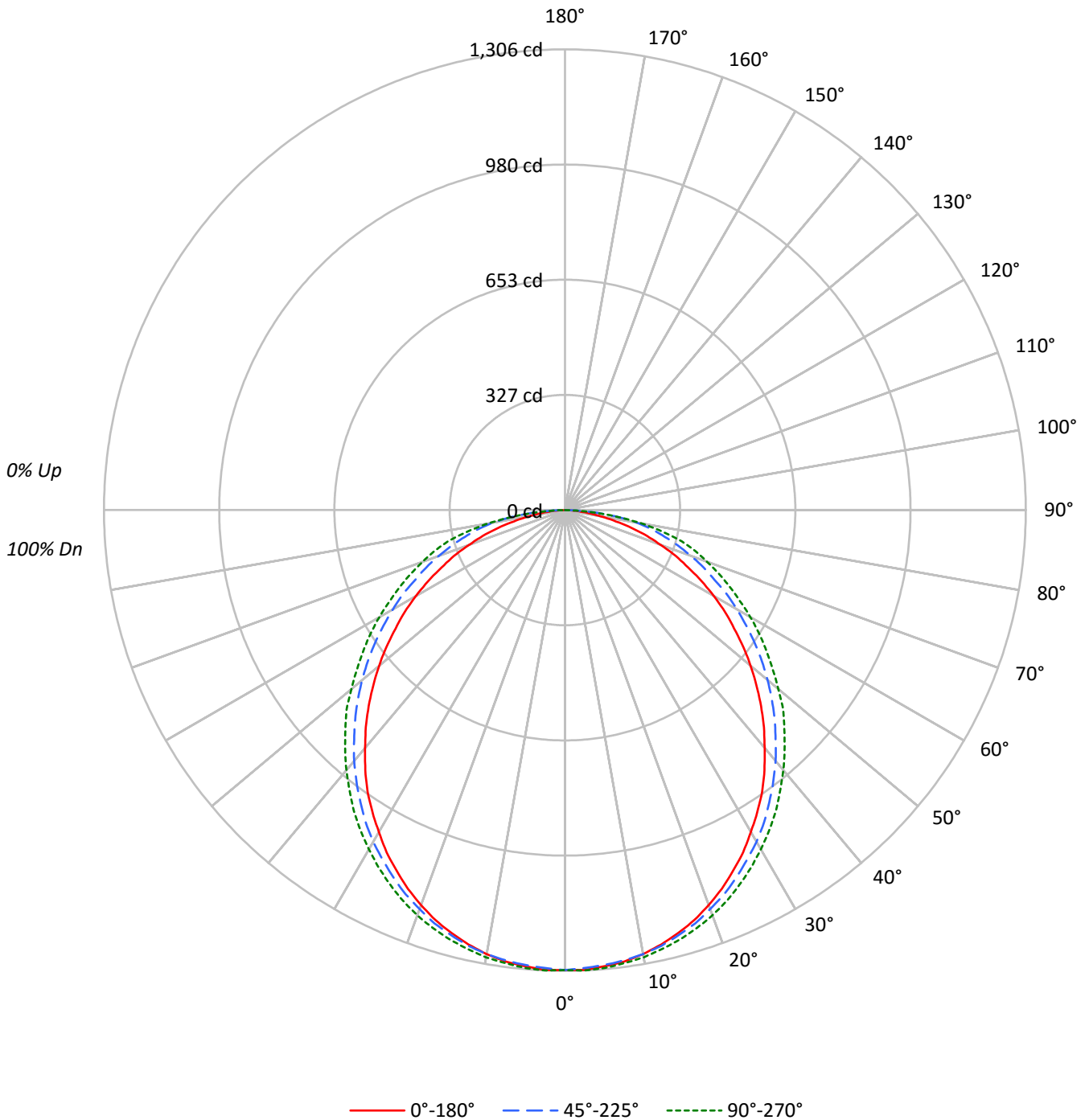
Lumens per Lamp: N/A  
Luminaire Lumens: 3711.0 lumens  
Efficiency: N/A  
Efficacy: 112.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 32.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1754	1754	1754
5°	1753	1748	1759
10°	1746	1746	1759
15°	1729	1737	1755
20°	1706	1723	1750
25°	1675	1706	1739
30°	1637	1687	1725
35°	1601	1659	1712
40°	1547	1632	1691
45°	1496	1599	1673
50°	1438	1569	1653
55°	1374	1540	1637
60°	1310	1516	1634
65°	1227	1490	1644
70°	1136	1498	1688
75°	1017	1526	1783
80°	822	1616	1744
85°	619	1419	1383



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.4	3.3
10°-20°	352.7	9.5
20°-30°	530.1	14.3
30°-40°	631.5	17.0
40°-50°	646.3	17.4
50°-60°	581.8	15.7
60°-70°	456.9	12.3
70°-80°	296.5	8.0
80°-90°	91.7	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°	1006.2	27.1
0°-40°	1637.7	44.1
0°-60°	2865.8	77.2
0°-90°	3711.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3711.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1298	1300	1294	1301	1302	123
15°	1241	1245	1247	1258	1260	350
25°	1128	1138	1149	1168	1172	520
35°	975	987	1010	1035	1042	608
45°	786	805	840	872	879	606
55°	586	612	657	691	698	525
65°	386	415	468	507	516	384
75°	196	233	294	334	343	207
85°	40	74	92	90	90	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1303.7	1303.7	1303.7	1303.7	1303.7
2.5°	1304.9	1304.9	1299.0	1304.9	1306.1
5°	1297.8	1300.2	1294.3	1301.3	1302.5
7.5°	1290.7	1290.7	1287.2	1294.3	1295.4
10°	1277.8	1278.9	1277.8	1286.0	1287.2
12.5°	1261.3	1263.6	1264.8	1273.1	1274.2
15°	1241.2	1244.8	1247.1	1257.7	1260.1
17.5°	1218.8	1222.4	1228.3	1240.0	1242.4
20°	1191.7	1196.4	1203.5	1218.8	1222.4
22.5°	1162.2	1167.0	1178.8	1192.9	1198.8
25°	1128.1	1137.5	1149.3	1168.1	1171.7
27.5°	1093.9	1102.1	1117.5	1137.5	1142.2
30°	1053.8	1066.8	1085.6	1105.7	1110.4
32.5°	1014.9	1027.9	1050.3	1071.5	1077.4
35°	974.8	986.6	1010.2	1034.9	1042.0
37.5°	928.9	944.2	970.1	994.9	1001.9
40°	880.5	899.4	928.9	954.8	963.0
42.5°	834.6	854.6	884.1	912.4	921.8
45°	786.2	805.1	840.4	872.3	879.3
47.5°	736.7	757.9	795.7	827.5	839.3
50°	687.2	709.6	749.7	782.7	789.8
52.5°	637.7	661.3	703.7	739.1	742.6
55°	585.8	611.8	656.6	690.7	697.8
57.5°	538.7	561.1	609.4	644.8	653.0
60°	486.8	511.6	563.4	596.4	607.1
62.5°	437.3	463.2	517.5	550.5	559.9
65°	385.5	414.9	468.0	506.9	516.3
67.5°	340.7	368.9	425.5	463.2	472.7
70°	288.8	320.6	380.7	419.6	429.1
72.5°	244.0	277.0	337.1	374.8	389.0
75°	195.7	233.4	293.5	333.6	343.0
77.5°	148.5	192.1	253.4	284.1	284.1
80°	106.1	152.1	208.6	222.8	225.1
82.5°	69.5	114.3	154.4	153.2	153.2
85°	40.1	74.3	91.9	89.6	89.6
87.5°	15.3	30.6	33.0	33.0	31.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)