

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: P311432

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP250-W2A-U-5500K**

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: P311432  
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-CP250-W2A-U-5500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (168) 5500K 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**

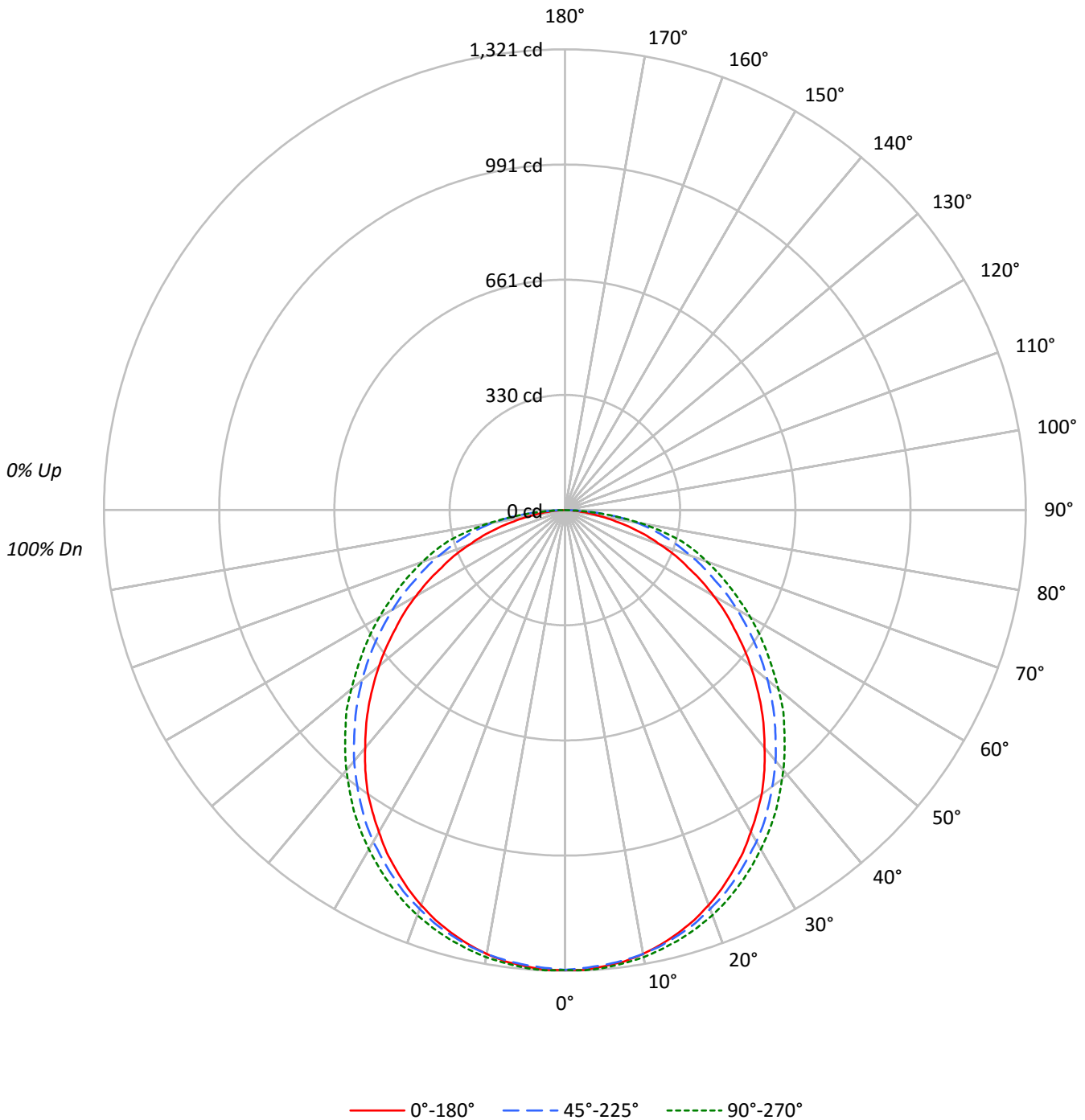
Lumens per Lamp: N/A  
Luminaire Lumens: 3753.0 lumens  
Efficiency: N/A  
Efficacy: 111.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.6  
Input Voltage (V): NR  
Input Current (A<sub>in</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



TEST NUMBER: P311432

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-S-CP250-W2A-U-5500K

### Luminous Intensity Polar Plot





TEST NUMBER: P311432

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-S-CP250-W2A-U-5500K

**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°	1774	1774	1774
5°	1773	1768	1779
10°	1765	1765	1779
15°	1749	1757	1775
20°	1726	1743	1770
25°	1694	1726	1759
30°	1656	1706	1745
35°	1619	1678	1731
40°	1564	1650	1711
45°	1513	1617	1692
50°	1455	1587	1672
55°	1390	1558	1655
60°	1325	1533	1652
65°	1241	1507	1662
70°	1149	1515	1707
75°	1029	1543	1803
80°	831	1635	1764
85°	625	1436	1399



TEST NUMBER: P311432

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-S-CP250-W2A-U-5500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.8	3.3
10°-20°	356.7	9.5
20°-30°	536.1	14.3
30°-40°	638.6	17.0
40°-50°	653.6	17.4
50°-60°	588.4	15.7
60°-70°	462.1	12.3
70°-80°	299.9	8.0
80°-90°	92.8	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°	1017.6	27.1
0°-40°	1656.2	44.1
0°-60°	2898.2	77.2
0°-90°	3753.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3753.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1318	1318	1318	1318	1318	
5°	1312	1315	1309	1316	1317	125
15°	1255	1259	1261	1272	1274	354
25°	1141	1150	1162	1181	1185	526
35°	986	998	1022	1047	1054	615
45°	795	814	850	882	889	613
55°	592	619	664	699	706	531
65°	390	420	473	513	522	388
75°	198	236	297	337	347	209
85°	40	75	93	91	91	49
90°	0	0	0	0	0	



TEST NUMBER: P311432

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-S-CP250-W2A-U-5500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1318.5	1318.5	1318.5	1318.5	1318.5
2.5°	1319.6	1319.6	1313.7	1319.6	1320.8
5°	1312.5	1314.9	1308.9	1316.1	1317.3
7.5°	1305.3	1305.3	1301.8	1308.9	1310.1
10°	1292.2	1293.4	1292.2	1300.6	1301.8
12.5°	1275.5	1277.9	1279.1	1287.5	1288.7
15°	1255.3	1258.8	1261.2	1272.0	1274.3
17.5°	1232.6	1236.2	1242.2	1254.1	1256.5
20°	1205.2	1210.0	1217.1	1232.6	1236.2
22.5°	1175.4	1180.2	1192.1	1206.4	1212.4
25°	1140.8	1150.4	1162.3	1181.4	1184.9
27.5°	1106.3	1114.6	1130.1	1150.4	1155.1
30°	1065.7	1078.8	1097.9	1118.2	1123.0
32.5°	1026.4	1039.5	1062.2	1083.6	1089.6
35°	985.9	997.8	1021.6	1046.7	1053.8
37.5°	939.4	954.9	981.1	1006.1	1013.3
40°	890.5	909.6	939.4	965.6	973.9
42.5°	844.0	864.3	894.1	922.7	932.2
45°	795.1	814.2	850.0	882.1	889.3
47.5°	745.1	766.5	804.7	836.8	848.8
50°	695.0	717.6	758.2	791.5	798.7
52.5°	644.9	668.8	711.7	747.4	751.0
55°	592.5	618.7	664.0	698.6	705.7
57.5°	544.8	567.4	616.3	652.1	660.4
60°	492.3	517.4	569.8	603.2	613.9
62.5°	442.3	468.5	523.3	556.7	566.2
65°	389.8	419.6	473.3	512.6	522.1
67.5°	344.5	373.1	430.3	468.5	478.0
70°	292.1	324.2	385.0	424.4	433.9
72.5°	246.8	280.1	340.9	379.1	393.4
75°	197.9	236.0	296.8	337.4	346.9
77.5°	150.2	194.3	256.3	287.3	287.3
80°	107.3	153.8	211.0	225.3	227.7
82.5°	70.3	115.6	156.2	155.0	155.0
85°	40.5	75.1	93.0	90.6	90.6
87.5°	15.5	31.0	33.4	33.4	32.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)