

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: P311385

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP250-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: P311385
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: 24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 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: 3689.0 lumens
Efficiency: N/A
Efficacy: 119.0 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

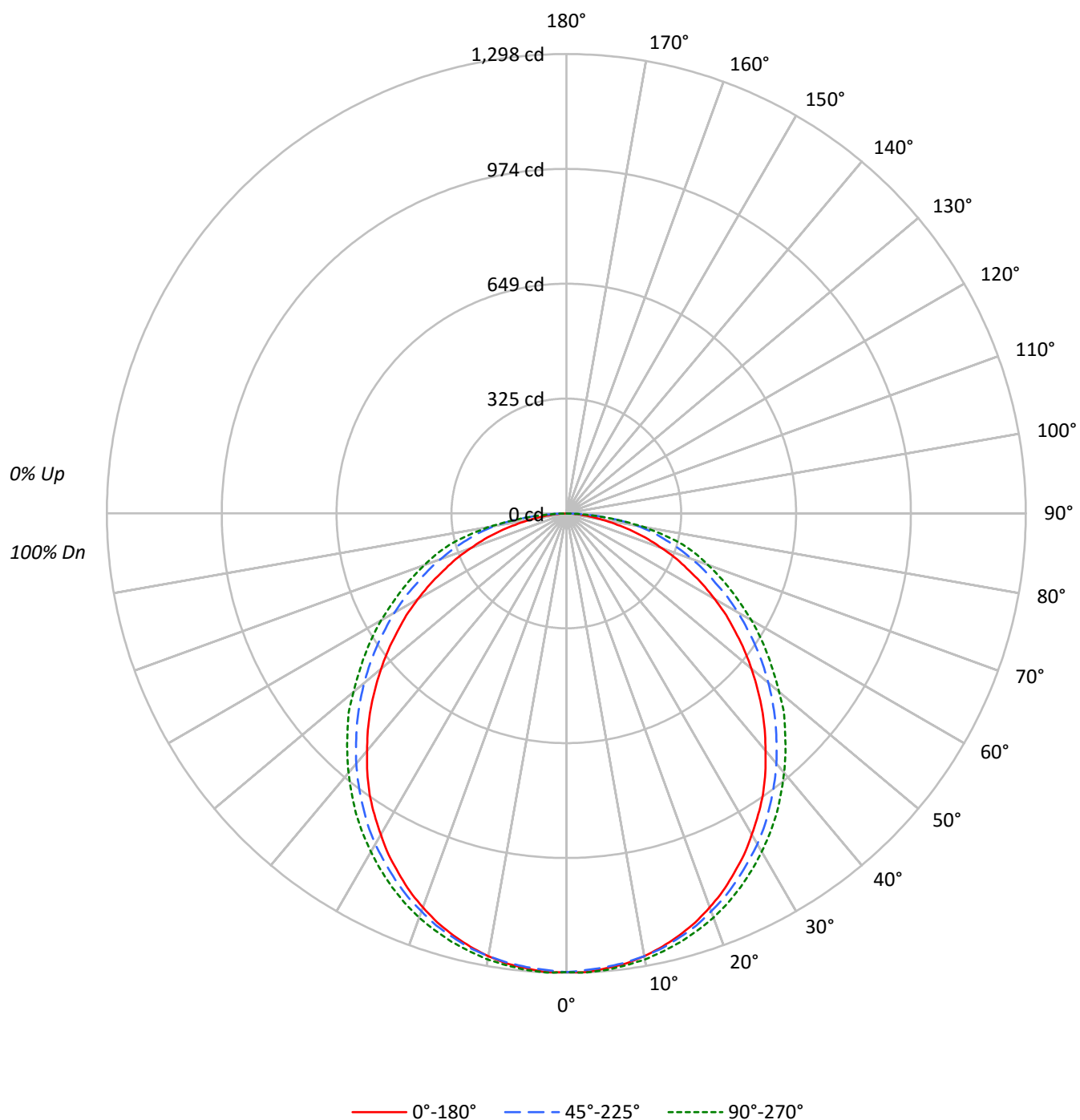
Input Watts (W): 31
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1744	1744	1744
5°	1742	1738	1749
10°	1735	1735	1748
15°	1719	1727	1745
20°	1696	1713	1740
25°	1665	1696	1729
30°	1628	1677	1715
35°	1592	1649	1701
40°	1537	1622	1681
45°	1487	1590	1663
50°	1430	1560	1643
55°	1366	1531	1627
60°	1302	1507	1624
65°	1220	1481	1634
70°	1129	1489	1678
75°	1011	1517	1773
80°	817	1607	1734
85°	614	1411	1376



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.7	3.3
10°-20°	350.6	9.5
20°-30°	527.0	14.3
30°-40°	627.7	17.0
40°-50°	642.4	17.4
50°-60°	578.4	15.7
60°-70°	454.2	12.3
70°-80°	294.8	8.0
80°-90°	91.2	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°	1000.2	27.1
0°-40°	1628.0	44.1
0°-60°	2848.8	77.2
0°-90°	3689.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3689.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1296	1296	1296	1296	1296	
5°	1290	1292	1287	1294	1295	123
15°	1234	1237	1240	1250	1253	348
25°	1121	1131	1142	1161	1165	517
35°	969	981	1004	1029	1036	605
45°	782	800	836	867	874	603
55°	582	608	653	687	694	522
65°	383	412	465	504	513	381
75°	194	232	292	332	341	206
85°	40	74	91	89	89	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1296.0	1296.0	1296.0	1296.0	1296.0
2.5°	1297.1	1297.1	1291.3	1297.1	1298.3
5°	1290.1	1292.5	1286.6	1293.6	1294.8
7.5°	1283.1	1283.1	1279.6	1286.6	1287.8
10°	1270.2	1271.4	1270.2	1278.4	1279.6
12.5°	1253.8	1256.1	1257.3	1265.5	1266.7
15°	1233.9	1237.4	1239.7	1250.3	1252.6
17.5°	1211.6	1215.1	1221.0	1232.7	1235.0
20°	1184.7	1189.3	1196.4	1211.6	1215.1
22.5°	1155.4	1160.0	1171.8	1185.8	1191.7
25°	1121.4	1130.8	1142.5	1161.2	1164.7
27.5°	1087.4	1095.6	1110.8	1130.8	1135.4
30°	1047.6	1060.4	1079.2	1099.1	1103.8
32.5°	1008.9	1021.8	1044.0	1065.1	1071.0
35°	969.0	980.8	1004.2	1028.8	1035.8
37.5°	923.3	938.6	964.4	989.0	996.0
40°	875.3	894.1	923.3	949.1	957.3
42.5°	829.6	849.5	878.8	906.9	916.3
45°	781.6	800.3	835.5	867.1	874.1
47.5°	732.4	753.4	790.9	822.6	834.3
50°	683.1	705.4	745.2	778.1	785.1
52.5°	633.9	657.4	699.5	734.7	738.2
55°	582.4	608.1	652.7	686.7	693.7
57.5°	535.5	557.8	605.8	641.0	649.2
60°	483.9	508.5	560.1	592.9	603.5
62.5°	434.7	460.5	514.4	547.2	556.6
65°	383.2	412.5	465.2	503.9	513.2
67.5°	338.6	366.8	423.0	460.5	469.9
70°	287.1	318.7	378.5	417.1	426.5
72.5°	242.6	275.4	335.1	372.6	386.7
75°	194.5	232.0	291.8	331.6	341.0
77.5°	147.6	191.0	251.9	282.4	282.4
80°	105.5	151.2	207.4	221.5	223.8
82.5°	69.1	113.7	153.5	152.3	152.3
85°	39.8	73.8	91.4	89.1	89.1
87.5°	15.2	30.5	32.8	32.8	31.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)