

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: P311384

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-4000K**

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: P311384
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4000K 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: 3625.0 lumens
Efficiency: N/A
Efficacy: 117.7 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

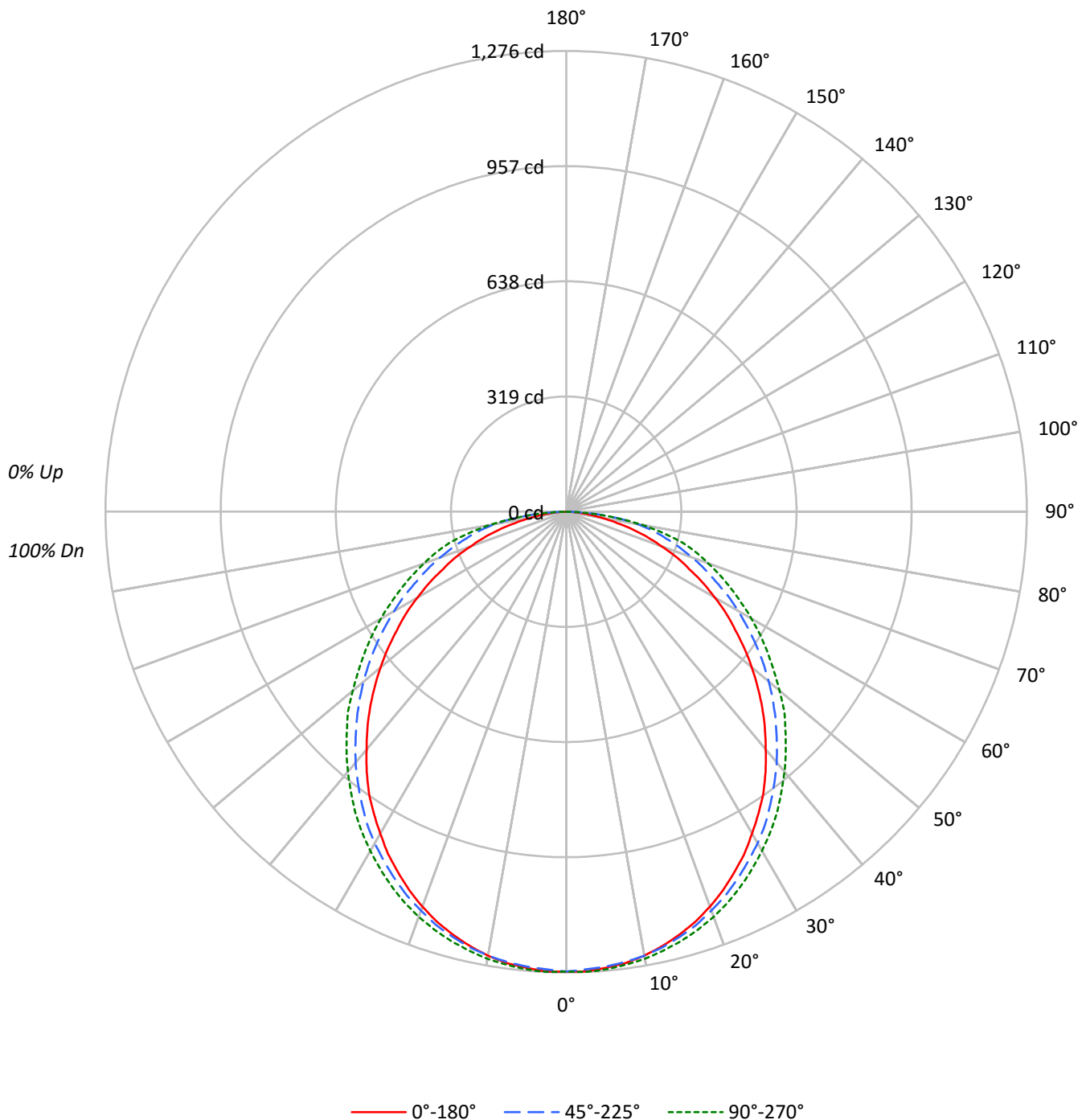
Input Watts (W): 30.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1713	1713	1713
5°	1712	1708	1718
10°	1705	1705	1718
15°	1689	1697	1715
20°	1667	1683	1710
25°	1636	1667	1699
30°	1599	1648	1685
35°	1564	1621	1672
40°	1511	1594	1652
45°	1461	1562	1635
50°	1405	1533	1615
55°	1342	1504	1599
60°	1280	1481	1596
65°	1199	1455	1606
70°	1110	1463	1649
75°	993	1490	1742
80°	803	1579	1704
85°	604	1386	1351



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.6	3.3
10°-20°	344.5	9.5
20°-30°	517.8	14.3
30°-40°	616.8	17.0
40°-50°	631.3	17.4
50°-60°	568.3	15.7
60°-70°	446.3	12.3
70°-80°	289.7	8.0
80°-90°	89.6	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°	982.9	27.1
0°-40°	1599.7	44.1
0°-60°	2799.4	77.2
0°-90°	3625.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3625.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1274	1274	1274	1274	1274	
5°	1268	1270	1264	1271	1272	120
15°	1212	1216	1218	1229	1231	342
25°	1102	1111	1123	1141	1144	508
35°	952	964	987	1011	1018	594
45°	768	786	821	852	859	592
55°	572	598	641	675	682	513
65°	376	405	457	495	504	375
75°	191	228	287	326	335	202
85°	39	72	90	88	88	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1273.5	1273.5	1273.5	1273.5	1273.5
2.5°	1274.6	1274.6	1268.9	1274.6	1275.8
5°	1267.7	1270.0	1264.3	1271.2	1272.3
7.5°	1260.8	1260.8	1257.4	1264.3	1265.4
10°	1248.2	1249.3	1248.2	1256.2	1257.4
12.5°	1232.0	1234.3	1235.5	1243.5	1244.7
15°	1212.5	1215.9	1218.2	1228.6	1230.9
17.5°	1190.6	1194.0	1199.8	1211.3	1213.6
20°	1164.1	1168.7	1175.6	1190.6	1194.0
22.5°	1135.3	1139.9	1151.4	1165.3	1171.0
25°	1101.9	1111.1	1122.6	1141.1	1144.5
27.5°	1068.5	1076.6	1091.6	1111.1	1115.7
30°	1029.4	1042.0	1060.5	1080.0	1084.7
32.5°	991.4	1004.1	1025.9	1046.7	1052.4
35°	952.2	963.8	986.8	1011.0	1017.9
37.5°	907.3	922.3	947.6	971.8	978.7
40°	860.1	878.5	907.3	932.7	940.7
42.5°	815.2	834.8	863.6	891.2	900.4
45°	768.0	786.4	821.0	852.1	859.0
47.5°	719.6	740.4	777.2	808.3	819.8
50°	671.3	693.2	732.3	764.6	771.5
52.5°	622.9	646.0	687.4	721.9	725.4
55°	572.3	597.6	641.3	674.7	681.6
57.5°	526.2	548.1	595.3	629.8	637.9
60°	475.5	499.7	550.4	582.6	593.0
62.5°	427.2	452.5	505.5	537.7	546.9
65°	376.5	405.3	457.1	495.1	504.3
67.5°	332.8	360.4	415.7	452.5	461.7
70°	282.1	313.2	371.9	409.9	419.1
72.5°	238.3	270.6	329.3	366.2	380.0
75°	191.1	228.0	286.7	325.9	335.1
77.5°	145.1	187.7	247.6	277.5	277.5
80°	103.6	148.5	203.8	217.6	219.9
82.5°	67.9	111.7	150.8	149.7	149.7
85°	39.1	72.5	89.8	87.5	87.5
87.5°	15.0	29.9	32.2	32.2	31.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)