

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: P311391

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CA08-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: P311391
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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

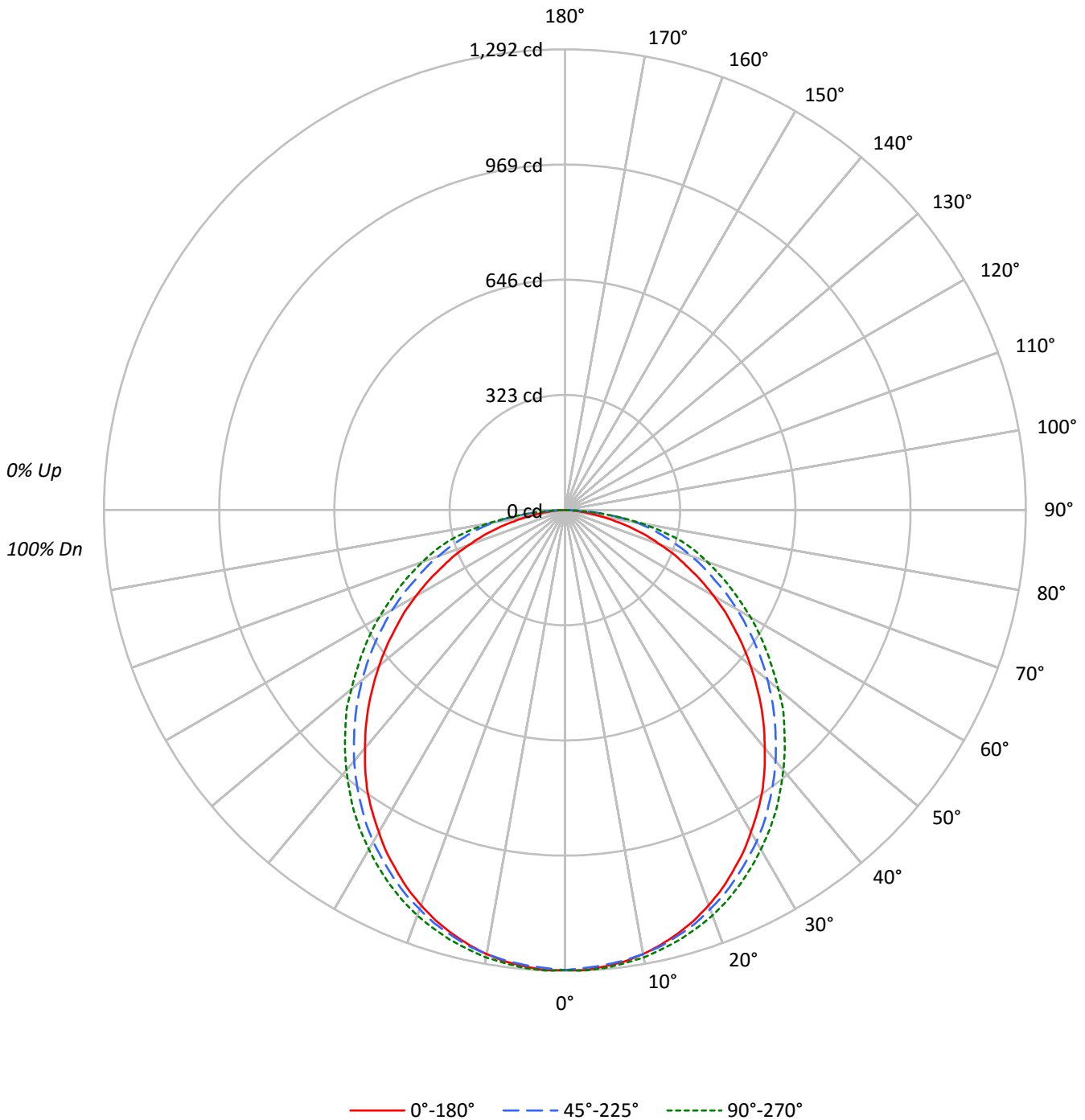
Lumens per Lamp: N/A
Luminaire Lumens: 3672.0 lumens
Efficiency: N/A
Efficacy: 113.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 32.5
Input Voltage (V): NR
Input Current (A_{in}): 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°	1736	1736	1736
5°	1734	1730	1741
10°	1727	1727	1740
15°	1711	1719	1737
20°	1688	1705	1732
25°	1657	1688	1721
30°	1620	1669	1707
35°	1584	1642	1694
40°	1530	1614	1674
45°	1480	1582	1656
50°	1423	1553	1636
55°	1360	1524	1620
60°	1296	1500	1616
65°	1214	1474	1627
70°	1124	1482	1670
75°	1006	1510	1764
80°	814	1599	1726
85°	613	1405	1368



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.1	3.3
10°-20°	349.0	9.5
20°-30°	524.6	14.3
30°-40°	624.8	17.0
40°-50°	639.5	17.4
50°-60°	575.7	15.7
60°-70°	452.1	12.3
70°-80°	293.4	8.0
80°-90°	90.8	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°	995.6	27.1
0°-40°	1620.5	44.1
0°-60°	2835.7	77.2
0°-90°	3672.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3672.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1290	1290	1290	1290	1290	
5°	1284	1286	1281	1288	1289	122
15°	1228	1232	1234	1244	1247	346
25°	1116	1126	1137	1156	1159	514
35°	965	976	1000	1024	1031	602
45°	778	797	832	863	870	600
55°	580	605	650	684	690	520
65°	381	411	463	502	511	380
75°	194	231	290	330	339	205
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°	1290.0	1290.0	1290.0	1290.0	1290.0
2.5°	1291.2	1291.2	1285.3	1291.2	1292.3
5°	1284.2	1286.5	1280.7	1287.7	1288.8
7.5°	1277.2	1277.2	1273.7	1280.7	1281.8
10°	1264.3	1265.5	1264.3	1272.5	1273.7
12.5°	1248.0	1250.3	1251.5	1259.7	1260.8
15°	1228.2	1231.7	1234.0	1244.5	1246.8
17.5°	1206.0	1209.5	1215.4	1227.0	1229.3
20°	1179.2	1183.9	1190.9	1206.0	1209.5
22.5°	1150.0	1154.7	1166.4	1180.4	1186.2
25°	1116.2	1125.5	1137.2	1155.9	1159.4
27.5°	1082.4	1090.5	1105.7	1125.5	1130.2
30°	1042.7	1055.6	1074.2	1094.0	1098.7
32.5°	1004.2	1017.1	1039.2	1060.2	1066.1
35°	964.6	976.2	999.6	1024.1	1031.1
37.5°	919.1	934.3	959.9	984.4	991.4
40°	871.3	889.9	919.1	944.8	952.9
42.5°	825.8	845.6	874.8	902.8	912.1
45°	778.0	796.6	831.6	863.1	870.1
47.5°	729.0	750.0	787.3	818.8	830.5
50°	680.0	702.2	741.8	774.5	781.5
52.5°	631.0	654.3	696.3	731.3	734.8
55°	579.7	605.3	649.7	683.5	690.5
57.5°	533.0	555.2	603.0	638.0	646.2
60°	481.7	506.2	557.5	590.2	600.7
62.5°	432.7	458.4	512.0	544.7	554.0
65°	381.4	410.6	463.0	501.5	510.9
67.5°	337.1	365.1	421.1	458.4	467.7
70°	285.8	317.3	376.7	415.2	424.6
72.5°	241.4	274.1	333.6	370.9	384.9
75°	193.6	230.9	290.4	330.1	339.4
77.5°	147.0	190.1	250.8	281.1	281.1
80°	105.0	150.5	206.4	220.4	222.8
82.5°	68.8	113.1	152.8	151.6	151.6
85°	39.7	73.5	91.0	88.6	88.6
87.5°	15.2	30.3	32.7	32.7	31.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)