

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: P311392

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CA08-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: P311392
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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

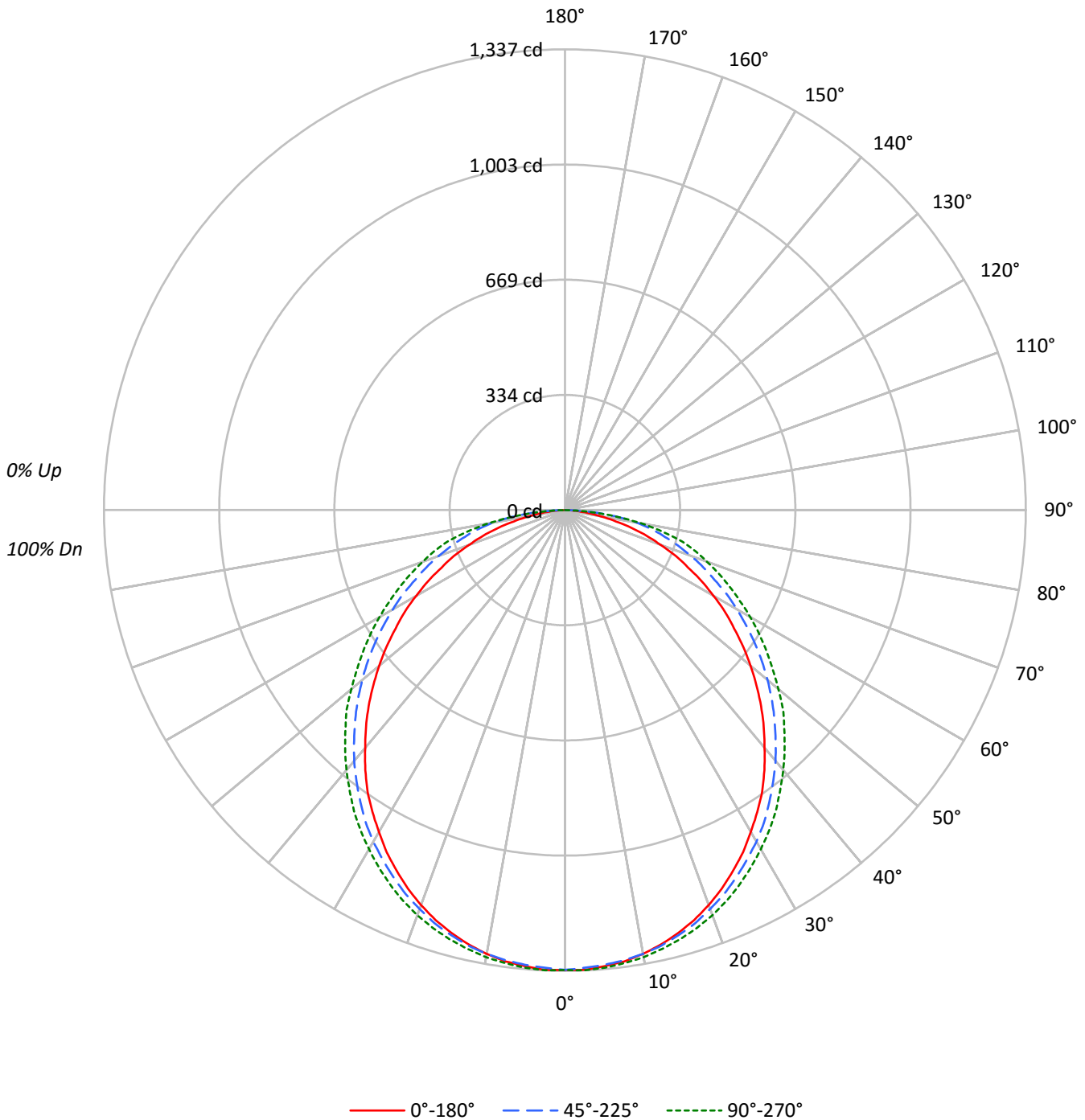
Lumens per Lamp: N/A
Luminaire Lumens: 3798.0 lumens
Efficiency: N/A
Efficacy: 115.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 32.9
Input Voltage (V): NR
Input Current (A_{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°	1795	1795	1795
5°	1794	1789	1801
10°	1787	1787	1800
15°	1769	1778	1796
20°	1746	1764	1791
25°	1714	1746	1780
30°	1676	1726	1766
35°	1639	1698	1752
40°	1583	1670	1731
45°	1531	1637	1713
50°	1472	1606	1692
55°	1407	1576	1675
60°	1341	1552	1672
65°	1256	1525	1682
70°	1163	1533	1727
75°	1041	1562	1825
80°	841	1654	1785
85°	633	1453	1416



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.3	3.3
10°-20°	360.9	9.5
20°-30°	542.6	14.3
30°-40°	646.3	17.0
40°-50°	661.4	17.4
50°-60°	595.5	15.7
60°-70°	467.6	12.3
70°-80°	303.5	8.0
80°-90°	93.9	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°	1029.8	27.1
0°-40°	1676.1	44.1
0°-60°	2933.0	77.2
0°-90°	3798.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3798.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1334	1334	1334	1334	1334	
5°	1328	1331	1325	1332	1333	126
15°	1270	1274	1276	1287	1290	358
25°	1154	1164	1176	1196	1199	532
35°	998	1010	1034	1059	1066	622
45°	805	824	860	893	900	620
55°	600	626	672	707	714	538
65°	394	425	479	519	528	393
75°	200	239	300	341	351	212
85°	41	76	94	92	92	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1334.3	1334.3	1334.3	1334.3	1334.3
2.5°	1335.5	1335.5	1329.4	1335.5	1336.7
5°	1328.2	1330.6	1324.6	1331.8	1333.1
7.5°	1321.0	1321.0	1317.4	1324.6	1325.8
10°	1307.7	1308.9	1307.7	1316.2	1317.4
12.5°	1290.8	1293.2	1294.5	1302.9	1304.1
15°	1270.3	1273.9	1276.4	1287.2	1289.6
17.5°	1247.4	1251.0	1257.1	1269.1	1271.5
20°	1219.7	1224.5	1231.7	1247.4	1251.0
22.5°	1189.5	1194.3	1206.4	1220.9	1226.9
25°	1154.5	1164.2	1176.2	1195.5	1199.1
27.5°	1119.5	1128.0	1143.7	1164.2	1169.0
30°	1078.5	1091.8	1111.1	1131.6	1136.4
32.5°	1038.7	1052.0	1074.9	1096.6	1102.6
35°	997.7	1009.7	1033.9	1059.2	1066.4
37.5°	950.6	966.3	992.9	1018.2	1025.4
40°	901.2	920.5	950.6	977.2	985.6
42.5°	854.1	874.6	904.8	933.7	943.4
45°	804.7	824.0	860.2	892.7	900.0
47.5°	754.0	775.7	814.3	846.9	858.9
50°	703.3	726.2	767.3	801.0	808.3
52.5°	652.7	676.8	720.2	756.4	760.0
55°	599.6	626.1	672.0	706.9	714.2
57.5°	551.3	574.2	623.7	659.9	668.3
60°	498.2	523.6	576.7	610.4	621.3
62.5°	447.6	474.1	529.6	563.4	573.0
65°	394.5	424.6	478.9	518.7	528.4
67.5°	348.6	377.6	435.5	474.1	483.8
70°	295.6	328.1	389.7	429.5	439.1
72.5°	249.7	283.5	345.0	383.6	398.1
75°	200.3	238.9	300.4	341.4	351.1
77.5°	152.0	196.6	259.4	290.7	290.7
80°	108.6	155.6	213.5	228.0	230.4
82.5°	71.2	117.0	158.0	156.8	156.8
85°	41.0	76.0	94.1	91.7	91.7
87.5°	15.7	31.4	33.8	33.8	32.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)