

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: P311390

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CA08-W2A-U-2700K**

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: P311390
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-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 2700K 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

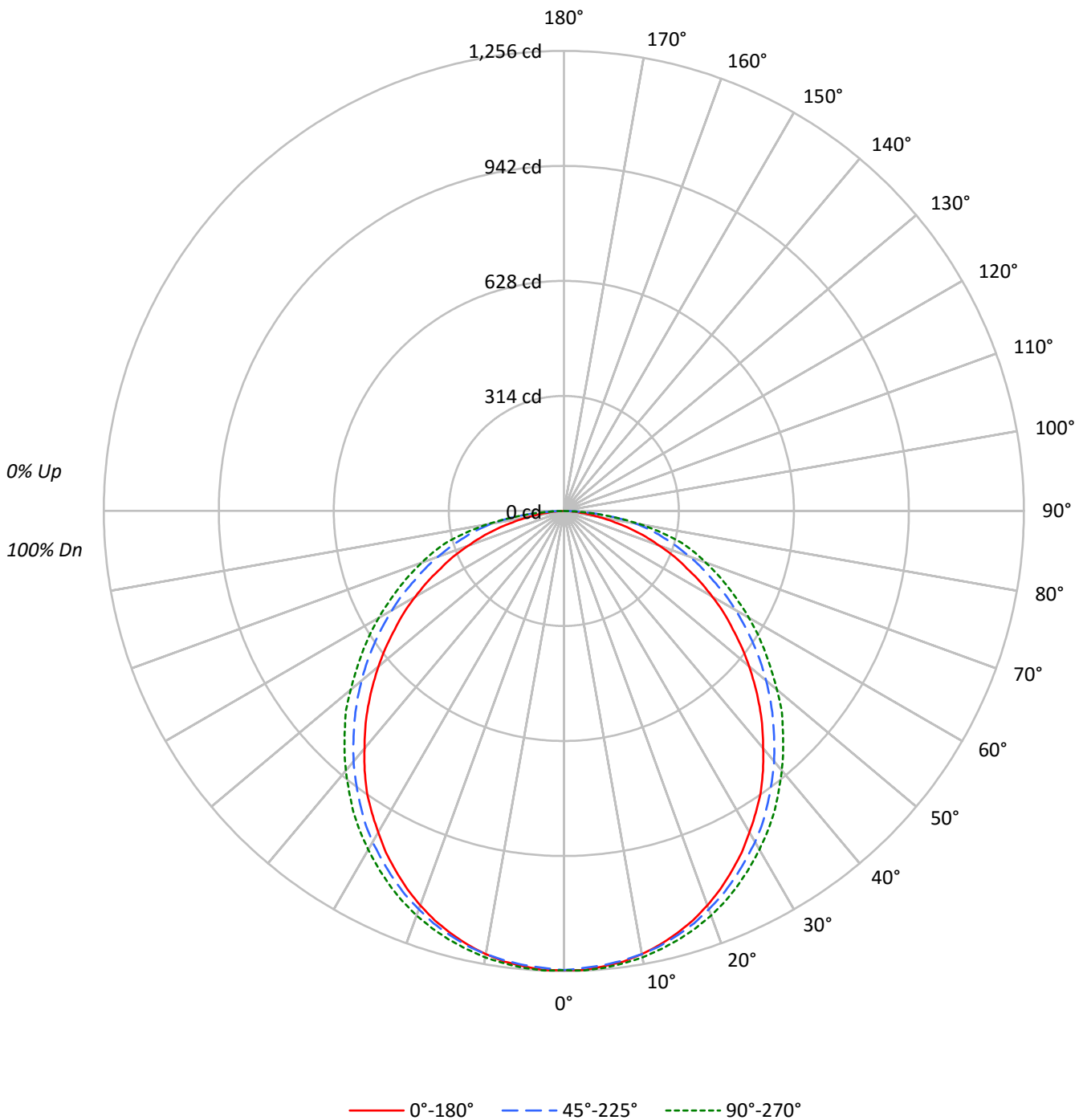
Lumens per Lamp: N/A
Luminaire Lumens: 3568.0 lumens
Efficiency: N/A
Efficacy: 109.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 32.7
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°	1687	1687	1687
5°	1685	1681	1691
10°	1678	1678	1691
15°	1662	1670	1688
20°	1641	1657	1683
25°	1610	1640	1672
30°	1574	1622	1659
35°	1540	1595	1646
40°	1487	1569	1626
45°	1438	1538	1609
50°	1383	1509	1589
55°	1321	1481	1574
60°	1260	1458	1571
65°	1180	1432	1580
70°	1092	1440	1623
75°	978	1467	1714
80°	790	1554	1678
85°	594	1365	1329



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.7	3.3
10°-20°	339.1	9.5
20°-30°	509.7	14.3
30°-40°	607.1	17.0
40°-50°	621.4	17.4
50°-60°	559.4	15.7
60°-70°	439.3	12.3
70°-80°	285.1	8.0
80°-90°	88.2	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°	967.4	27.1
0°-40°	1574.6	44.1
0°-60°	2755.4	77.2
0°-90°	3568.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3568.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1254	1254	1254	1254	1254	
5°	1248	1250	1244	1251	1252	119
15°	1193	1197	1199	1209	1212	337
25°	1085	1094	1105	1123	1126	500
35°	937	949	971	995	1002	585
45°	756	774	808	839	846	583
55°	563	588	631	664	671	505
65°	371	399	450	487	496	369
75°	188	224	282	321	330	199
85°	38	71	88	86	86	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1253.5	1253.5	1253.5	1253.5	1253.5
2.5°	1254.6	1254.6	1248.9	1254.6	1255.7
5°	1247.8	1250.1	1244.4	1251.2	1252.3
7.5°	1241.0	1241.0	1237.6	1244.4	1245.5
10°	1228.5	1229.7	1228.5	1236.5	1237.6
12.5°	1212.7	1214.9	1216.1	1224.0	1225.1
15°	1193.4	1196.8	1199.1	1209.3	1211.5
17.5°	1171.9	1175.3	1180.9	1192.3	1194.5
20°	1145.8	1150.3	1157.1	1171.9	1175.3
22.5°	1117.5	1122.0	1133.3	1146.9	1152.6
25°	1084.6	1093.7	1105.0	1123.1	1126.5
27.5°	1051.7	1059.7	1074.4	1093.7	1098.2
30°	1013.2	1025.7	1043.8	1063.1	1067.6
32.5°	975.8	988.3	1009.8	1030.2	1035.9
35°	937.3	948.6	971.3	995.1	1001.9
37.5°	893.1	907.8	932.7	956.5	963.3
40°	846.6	864.7	893.1	918.0	925.9
42.5°	802.4	821.7	850.0	877.2	886.3
45°	755.9	774.1	808.1	838.7	845.5
47.5°	708.3	728.7	765.0	795.6	806.9
50°	660.7	682.3	720.8	752.5	759.3
52.5°	613.1	635.8	676.6	710.6	714.0
55°	563.3	588.2	631.3	664.1	670.9
57.5°	517.9	539.5	585.9	619.9	627.9
60°	468.1	491.9	541.7	573.5	583.7
62.5°	420.5	445.4	497.5	529.3	538.3
65°	370.6	398.9	449.9	487.3	496.4
67.5°	327.5	354.7	409.1	445.4	454.5
70°	277.7	308.3	366.1	403.5	412.5
72.5°	234.6	266.3	324.1	360.4	374.0
75°	188.1	224.4	282.2	320.7	329.8
77.5°	142.8	184.7	243.7	273.1	273.1
80°	102.0	146.2	200.6	214.2	216.5
82.5°	66.9	109.9	148.5	147.3	147.3
85°	38.5	71.4	88.4	86.1	86.1
87.5°	14.7	29.5	31.7	31.7	30.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)