

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: P311393

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CA08-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: P311393
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 3882.0 lumens
Efficiency: N/A
Efficacy: 117.3 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

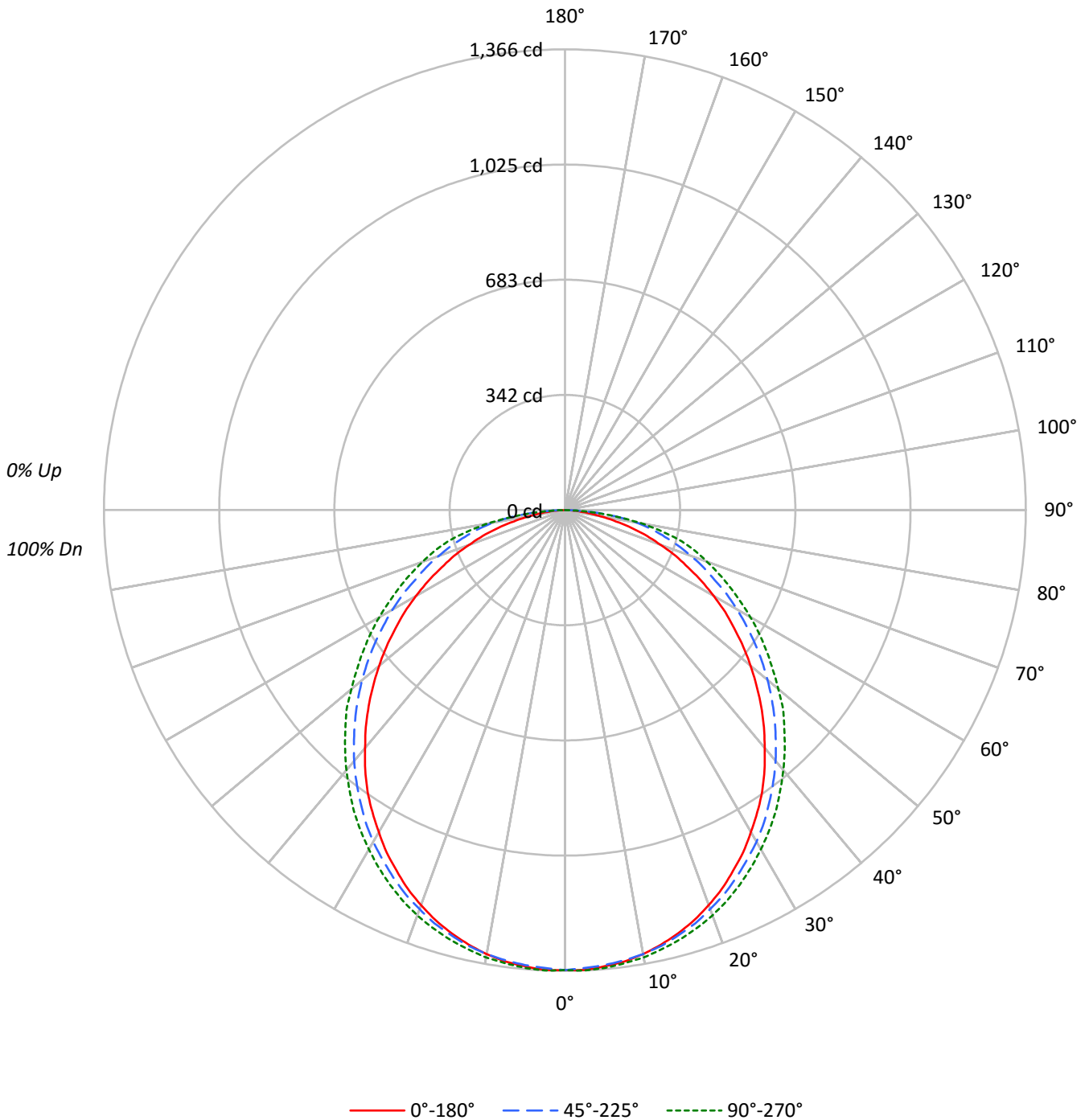
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1835	1835	1835
5°	1834	1829	1840
10°	1826	1826	1840
15°	1809	1817	1836
20°	1785	1803	1831
25°	1752	1785	1820
30°	1713	1764	1805
35°	1675	1736	1790
40°	1618	1707	1769
45°	1565	1673	1750
50°	1505	1641	1729
55°	1437	1611	1712
60°	1371	1586	1709
65°	1284	1558	1720
70°	1188	1567	1766
75°	1064	1596	1865
80°	860	1691	1825
85°	647	1485	1447



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.1	3.3
10°-20°	368.9	9.5
20°-30°	554.6	14.3
30°-40°	660.6	17.0
40°-50°	676.1	17.4
50°-60°	608.6	15.7
60°-70°	478.0	12.3
70°-80°	310.2	8.0
80°-90°	95.9	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°	1052.6	27.1
0°-40°	1713.1	44.1
0°-60°	2997.9	77.2
0°-90°	3882.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3882.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1364	1364	1364	1364	1364	
5°	1358	1360	1354	1361	1362	129
15°	1298	1302	1305	1316	1318	366
25°	1180	1190	1202	1222	1226	544
35°	1020	1032	1057	1083	1090	636
45°	822	842	879	912	920	634
55°	613	640	687	723	730	549
65°	403	434	490	530	540	401
75°	205	244	307	349	359	217
85°	42	78	96	94	94	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1363.8	1363.8	1363.8	1363.8	1363.8
2.5°	1365.0	1365.0	1358.8	1365.0	1366.2
5°	1357.6	1360.1	1353.9	1361.3	1362.5
7.5°	1350.2	1350.2	1346.5	1353.9	1355.1
10°	1336.6	1337.9	1336.6	1345.3	1346.5
12.5°	1319.4	1321.8	1323.1	1331.7	1332.9
15°	1298.4	1302.1	1304.6	1315.7	1318.1
17.5°	1275.0	1278.7	1284.9	1297.2	1299.7
20°	1246.6	1251.6	1259.0	1275.0	1278.7
22.5°	1215.8	1220.7	1233.1	1247.9	1254.0
25°	1180.0	1189.9	1202.2	1222.0	1225.7
27.5°	1144.3	1152.9	1168.9	1189.9	1194.8
30°	1102.4	1115.9	1135.7	1156.6	1161.5
32.5°	1061.7	1075.2	1098.7	1120.9	1127.0
35°	1019.7	1032.1	1056.7	1082.6	1090.0
37.5°	971.7	987.7	1014.8	1040.7	1048.1
40°	921.1	940.8	971.7	998.8	1007.4
42.5°	873.0	894.0	924.8	954.4	964.3
45°	822.5	842.2	879.2	912.5	919.9
47.5°	770.7	792.9	832.3	865.6	877.9
50°	718.9	742.3	784.2	818.8	826.2
52.5°	667.1	691.8	736.1	773.1	776.8
55°	612.8	640.0	686.8	722.6	730.0
57.5°	563.5	586.9	637.5	674.5	683.1
60°	509.3	535.2	589.4	623.9	635.0
62.5°	457.5	484.6	541.3	575.8	585.7
65°	403.2	434.0	489.5	530.2	540.1
67.5°	356.4	385.9	445.1	484.6	494.5
70°	302.1	335.4	398.3	439.0	448.8
72.5°	255.2	289.8	352.7	392.1	406.9
75°	204.7	244.1	307.0	349.0	358.8
77.5°	155.4	201.0	265.1	297.2	297.2
80°	111.0	159.1	218.3	233.0	235.5
82.5°	72.8	119.6	161.5	160.3	160.3
85°	41.9	77.7	96.2	93.7	93.7
87.5°	16.0	32.1	34.5	34.5	33.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)