

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: P311402

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CA125-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: P311402
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-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 3868.0 lumens
Efficiency: N/A
Efficacy: 116.9 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

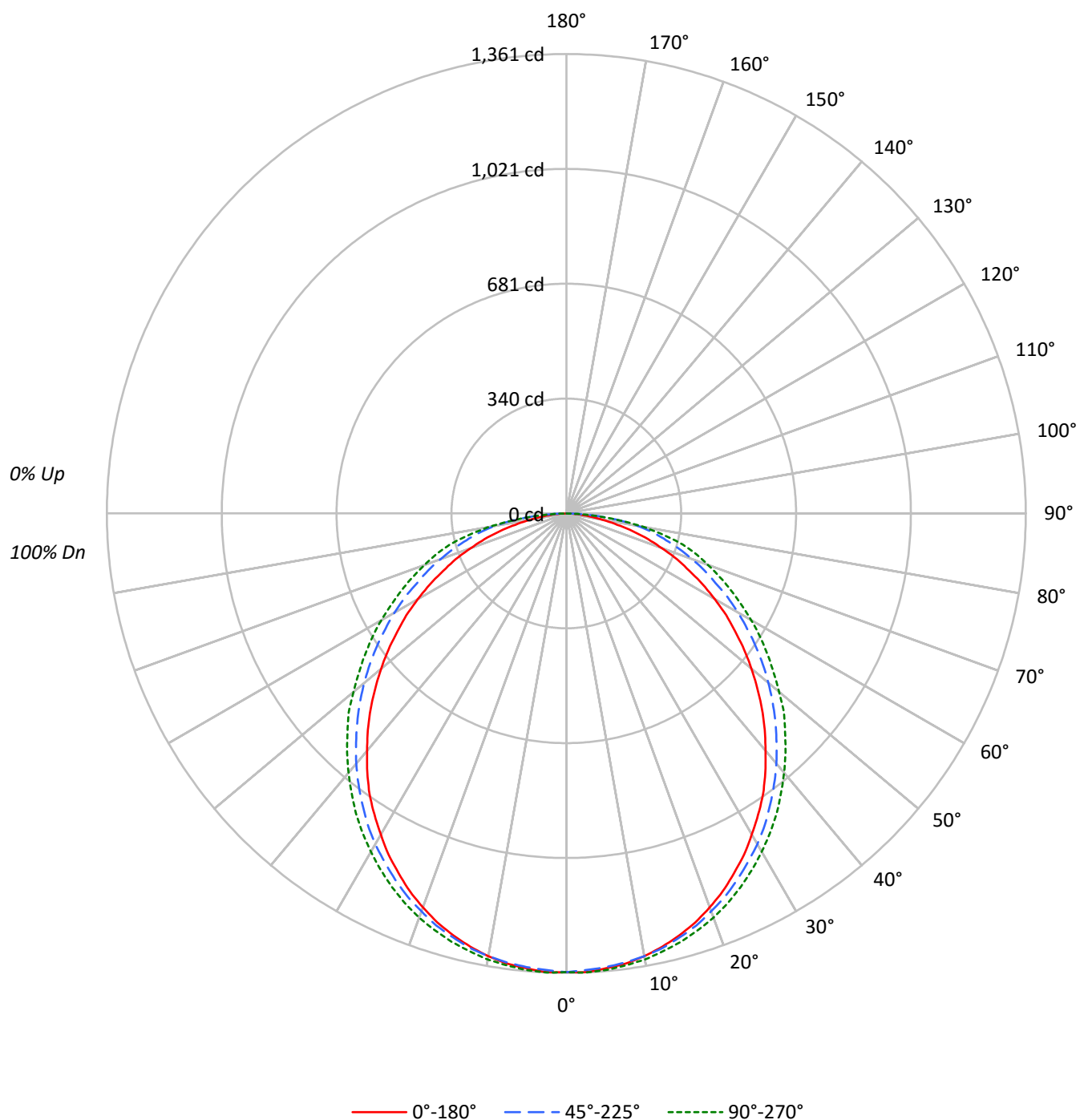
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1828	1828	1828
5°	1827	1822	1834
10°	1820	1820	1833
15°	1802	1811	1830
20°	1778	1796	1824
25°	1746	1778	1813
30°	1707	1758	1798
35°	1669	1729	1784
40°	1612	1701	1763
45°	1559	1667	1744
50°	1499	1636	1723
55°	1432	1605	1706
60°	1365	1580	1703
65°	1279	1553	1713
70°	1184	1561	1759
75°	1061	1590	1858
80°	857	1685	1819
85°	645	1479	1442



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.6	3.3
10°-20°	367.6	9.5
20°-30°	552.6	14.3
30°-40°	658.2	17.0
40°-50°	673.6	17.4
50°-60°	606.5	15.7
60°-70°	476.3	12.3
70°-80°	309.1	8.0
80°-90°	95.6	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°	1048.8	27.1
0°-40°	1707.0	44.1
0°-60°	2987.0	77.2
0°-90°	3868.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3868.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1359	1359	1359	1359	1359	
5°	1353	1355	1349	1356	1358	129
15°	1294	1297	1300	1311	1313	365
25°	1176	1186	1198	1218	1221	542
35°	1016	1028	1053	1079	1086	634
45°	820	839	876	909	917	632
55°	611	638	684	720	727	547
65°	402	432	488	528	538	400
75°	204	243	306	348	358	216
85°	42	77	96	93	93	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1358.9	1358.9	1358.9	1358.9	1358.9
2.5°	1360.1	1360.1	1353.9	1360.1	1361.3
5°	1352.7	1355.2	1349.0	1356.4	1357.6
7.5°	1345.3	1345.3	1341.7	1349.0	1350.3
10°	1331.8	1333.1	1331.8	1340.4	1341.7
12.5°	1314.6	1317.1	1318.3	1326.9	1328.1
15°	1293.7	1297.4	1299.9	1310.9	1313.4
17.5°	1270.4	1274.1	1280.2	1292.5	1295.0
20°	1242.1	1247.0	1254.4	1270.4	1274.1
22.5°	1211.4	1216.3	1228.6	1243.4	1249.5
25°	1175.8	1185.6	1197.9	1217.6	1221.2
27.5°	1140.2	1148.8	1164.7	1185.6	1190.5
30°	1098.4	1111.9	1131.6	1152.4	1157.4
32.5°	1057.8	1071.4	1094.7	1116.8	1123.0
35°	1016.1	1028.4	1052.9	1078.7	1086.1
37.5°	968.2	984.1	1011.2	1037.0	1044.3
40°	917.8	937.4	968.2	995.2	1003.8
42.5°	869.9	890.7	921.5	951.0	960.8
45°	819.5	839.1	876.0	909.2	916.6
47.5°	767.9	790.0	829.3	862.5	874.8
50°	716.3	739.6	781.4	815.8	823.2
52.5°	664.7	689.3	733.5	770.3	774.0
55°	610.6	637.7	684.3	720.0	727.3
57.5°	561.5	584.8	635.2	672.1	680.7
60°	507.4	533.2	587.3	621.7	632.7
62.5°	455.8	482.8	539.4	573.8	583.6
65°	401.8	432.5	487.8	528.3	538.1
67.5°	355.1	384.6	443.5	482.8	492.7
70°	301.0	334.2	396.8	437.4	447.2
72.5°	254.3	288.7	351.4	390.7	405.4
75°	204.0	243.3	305.9	347.7	357.5
77.5°	154.8	200.3	264.2	296.1	296.1
80°	110.6	158.5	217.5	232.2	234.7
82.5°	72.5	119.2	160.9	159.7	159.7
85°	41.8	77.4	95.8	93.4	93.4
87.5°	16.0	31.9	34.4	34.4	33.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)