

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: P314292

Luminaire Tested: **24FCZ2-40-UNV-L83050-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: P314292
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-L83050-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: 4083.0 lumens
Efficiency: N/A
Efficacy: 121.9 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

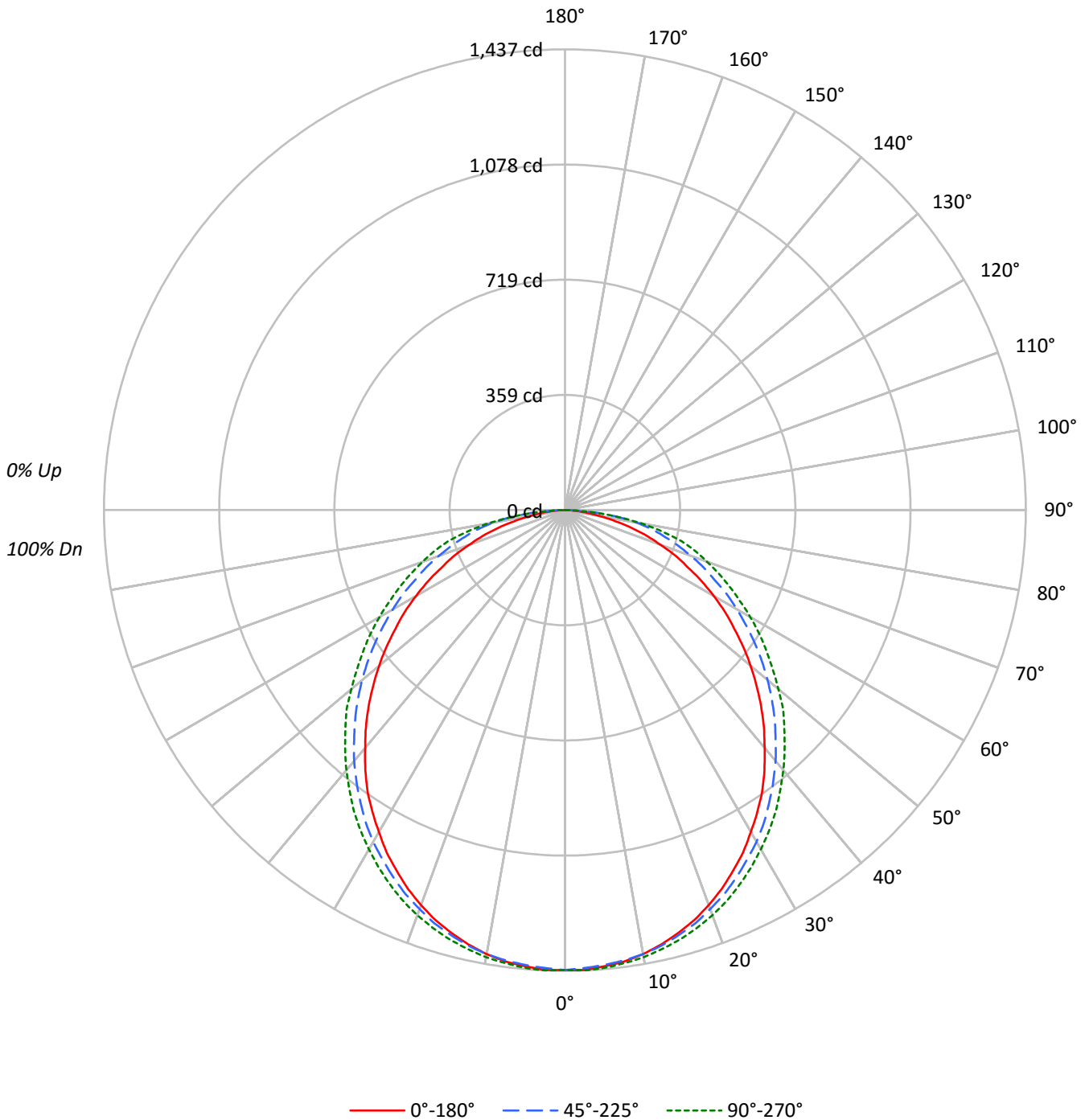
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1930	1930	1930
5°	1929	1923	1936
10°	1921	1921	1935
15°	1902	1911	1931
20°	1877	1896	1926
25°	1843	1877	1914
30°	1801	1856	1898
35°	1762	1826	1883
40°	1702	1795	1861
45°	1646	1760	1841
50°	1583	1726	1819
55°	1512	1695	1801
60°	1441	1668	1797
65°	1350	1639	1808
70°	1250	1648	1857
75°	1119	1679	1962
80°	904	1779	1919
85°	681	1562	1522



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.8	3.3
10°-20°	388.0	9.5
20°-30°	583.3	14.3
30°-40°	694.8	17.0
40°-50°	711.1	17.4
50°-60°	640.2	15.7
60°-70°	502.7	12.3
70°-80°	326.3	8.0
80°-90°	100.9	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°	1107.1	27.1
0°-40°	1801.8	44.1
0°-60°	3153.1	77.2
0°-90°	4083.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4083.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1434	1434	1434	1434	1434	
5°	1428	1430	1424	1432	1433	136
15°	1366	1370	1372	1384	1386	385
25°	1241	1252	1264	1285	1289	572
35°	1072	1086	1112	1139	1146	669
45°	865	886	925	960	968	667
55°	645	673	722	760	768	578
65°	424	456	515	558	568	422
75°	215	257	323	367	377	228
85°	44	82	101	99	99	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1434.4	1434.4	1434.4	1434.4	1434.4
2.5°	1435.7	1435.7	1429.2	1435.7	1437.0
5°	1427.9	1430.5	1424.0	1431.8	1433.1
7.5°	1420.1	1420.1	1416.2	1424.0	1425.3
10°	1405.9	1407.1	1405.9	1414.9	1416.2
12.5°	1387.7	1390.3	1391.6	1400.7	1402.0
15°	1365.6	1369.5	1372.1	1383.8	1386.4
17.5°	1341.0	1344.9	1351.4	1364.4	1366.9
20°	1311.2	1316.4	1324.1	1341.0	1344.9
22.5°	1278.8	1283.9	1296.9	1312.5	1319.0
25°	1241.1	1251.5	1264.5	1285.2	1289.1
27.5°	1203.5	1212.6	1229.5	1251.5	1256.7
30°	1159.4	1173.7	1194.5	1216.5	1221.7
32.5°	1116.6	1130.9	1155.5	1178.9	1185.4
35°	1072.5	1085.5	1111.5	1138.7	1146.5
37.5°	1022.0	1038.8	1067.4	1094.6	1102.4
40°	968.8	989.5	1022.0	1050.5	1059.6
42.5°	918.2	940.3	972.7	1003.8	1014.2
45°	865.0	885.8	924.7	959.7	967.5
47.5°	810.6	833.9	875.4	910.4	923.4
50°	756.1	780.7	824.8	861.1	868.9
52.5°	701.6	727.6	774.3	813.2	817.1
55°	644.6	673.1	722.4	760.0	767.8
57.5°	592.7	617.3	670.5	709.4	718.5
60°	535.6	562.9	619.9	656.2	667.9
62.5°	481.2	509.7	569.3	605.7	616.0
65°	424.1	456.5	514.9	557.7	568.0
67.5°	374.8	405.9	468.2	509.7	520.1
70°	317.7	352.8	418.9	461.7	472.1
72.5°	268.5	304.8	370.9	412.4	428.0
75°	215.3	256.8	322.9	367.0	377.4
77.5°	163.4	211.4	278.8	312.6	312.6
80°	116.7	167.3	229.6	245.1	247.7
82.5°	76.5	125.8	169.9	168.6	168.6
85°	44.1	81.7	101.2	98.6	98.6
87.5°	16.9	33.7	36.3	36.3	35.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)