

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: P310898

Luminaire Tested: **24FCZ2-50-UNV-L82765-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: P310898
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-50-UNV-L82765-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 4565.0 lumens
Efficiency: N/A
Efficacy: 105.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

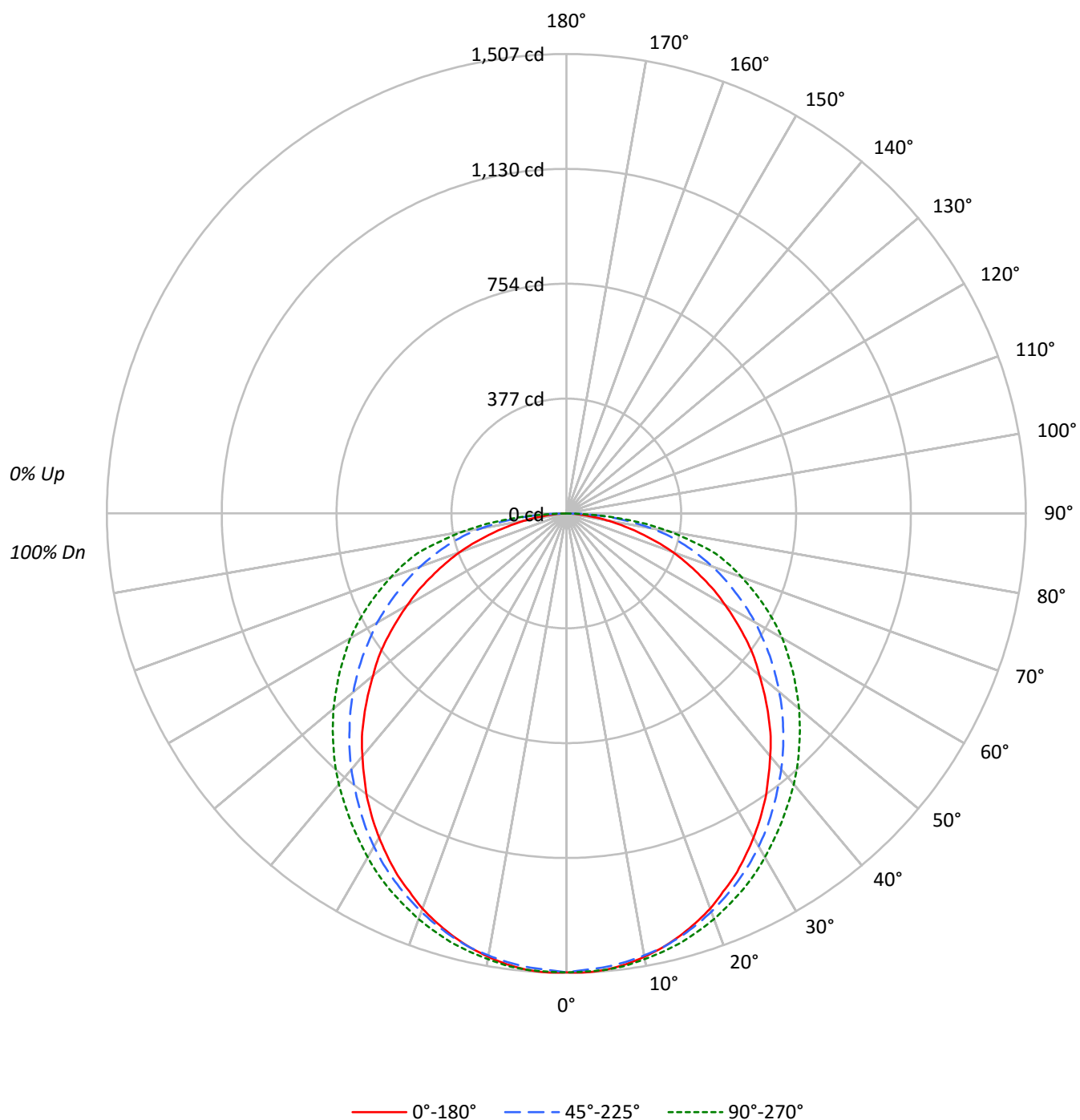
Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2026	2026	2026
5°	2029	2017	2029
10°	2018	2011	2028
15°	2000	2004	2030
20°	1976	1991	2028
25°	1945	1976	2026
30°	1908	1960	2024
35°	1871	1940	2025
40°	1828	1926	2038
45°	1784	1914	2055
50°	1731	1909	2086
55°	1688	1911	2128
60°	1622	1928	2201
65°	1548	1948	2281
70°	1466	2008	2407
75°	1307	2095	2630
80°	1115	2218	2687
85°	795	2198	2572



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.5	3.1
10°-20°	407.4	8.9
20°-30°	615.3	13.5
30°-40°	741.6	16.2
40°-50°	778.6	17.1
50°-60°	728.4	16.0
60°-70°	601.5	13.2
70°-80°	409.9	9.0
80°-90°	139.8	3.1
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°	1165.2	25.5
0°-40°	1906.8	41.8
0°-60°	3413.8	74.8
0°-90°	4565.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4565.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1506	1506	1506	1506	1506	
5°	1502	1501	1493	1502	1502	143
15°	1436	1437	1439	1454	1457	405
25°	1310	1316	1331	1357	1365	603
35°	1139	1151	1181	1221	1233	712
45°	938	957	1006	1060	1080	723
55°	719	748	815	882	907	642
65°	486	527	612	689	716	482
75°	251	309	403	479	506	268
85°	52	102	142	160	167	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1505.5	1505.5	1505.5	1505.5	1505.5
2.5°	1507.0	1505.5	1497.9	1505.5	1504.0
5°	1502.5	1501.0	1493.4	1502.5	1502.5
7.5°	1491.9	1491.9	1484.3	1494.9	1496.4
10°	1476.7	1476.7	1472.2	1484.3	1484.3
12.5°	1458.5	1458.5	1458.5	1470.7	1472.2
15°	1435.8	1437.3	1438.9	1454.0	1457.0
17.5°	1408.6	1411.6	1416.1	1434.3	1437.3
20°	1379.8	1382.8	1390.4	1411.6	1416.1
22.5°	1343.4	1351.0	1361.6	1385.8	1390.4
25°	1310.1	1316.2	1331.3	1357.1	1364.6
27.5°	1269.2	1278.3	1298.0	1325.3	1335.9
30°	1228.3	1237.4	1261.6	1293.5	1302.5
32.5°	1184.4	1198.0	1223.8	1257.1	1267.7
35°	1139.0	1151.1	1181.4	1220.8	1232.9
37.5°	1089.0	1105.6	1139.0	1181.4	1196.5
40°	1040.5	1058.7	1096.6	1142.0	1160.2
42.5°	992.1	1010.2	1052.6	1104.1	1122.3
45°	937.5	957.2	1005.7	1060.2	1079.9
47.5°	883.0	907.2	960.2	1017.8	1039.0
50°	827.0	854.2	911.8	972.4	996.6
52.5°	777.0	802.7	863.3	928.4	951.2
55°	719.4	748.2	814.8	881.5	907.2
57.5°	660.4	692.2	763.4	836.1	861.8
60°	602.8	637.6	716.4	789.1	817.9
62.5°	546.8	581.6	663.4	739.1	767.9
65°	486.2	527.1	611.9	689.1	716.4
67.5°	428.6	472.6	561.9	637.6	664.9
70°	372.6	415.0	510.4	584.6	611.9
72.5°	312.0	360.5	455.9	533.1	561.9
75°	251.4	309.0	402.9	478.6	505.9
77.5°	195.4	254.5	348.4	410.5	424.1
80°	143.9	204.5	286.3	330.2	346.8
82.5°	92.4	153.0	218.1	249.9	263.5
85°	51.5	101.5	142.4	160.5	166.6
87.5°	21.2	43.9	57.6	65.1	65.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)