

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: P311568

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-5700K**

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: P311568
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: 24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5700K 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: 4672.0 lumens
Efficiency: N/A
Efficacy: 118.3 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

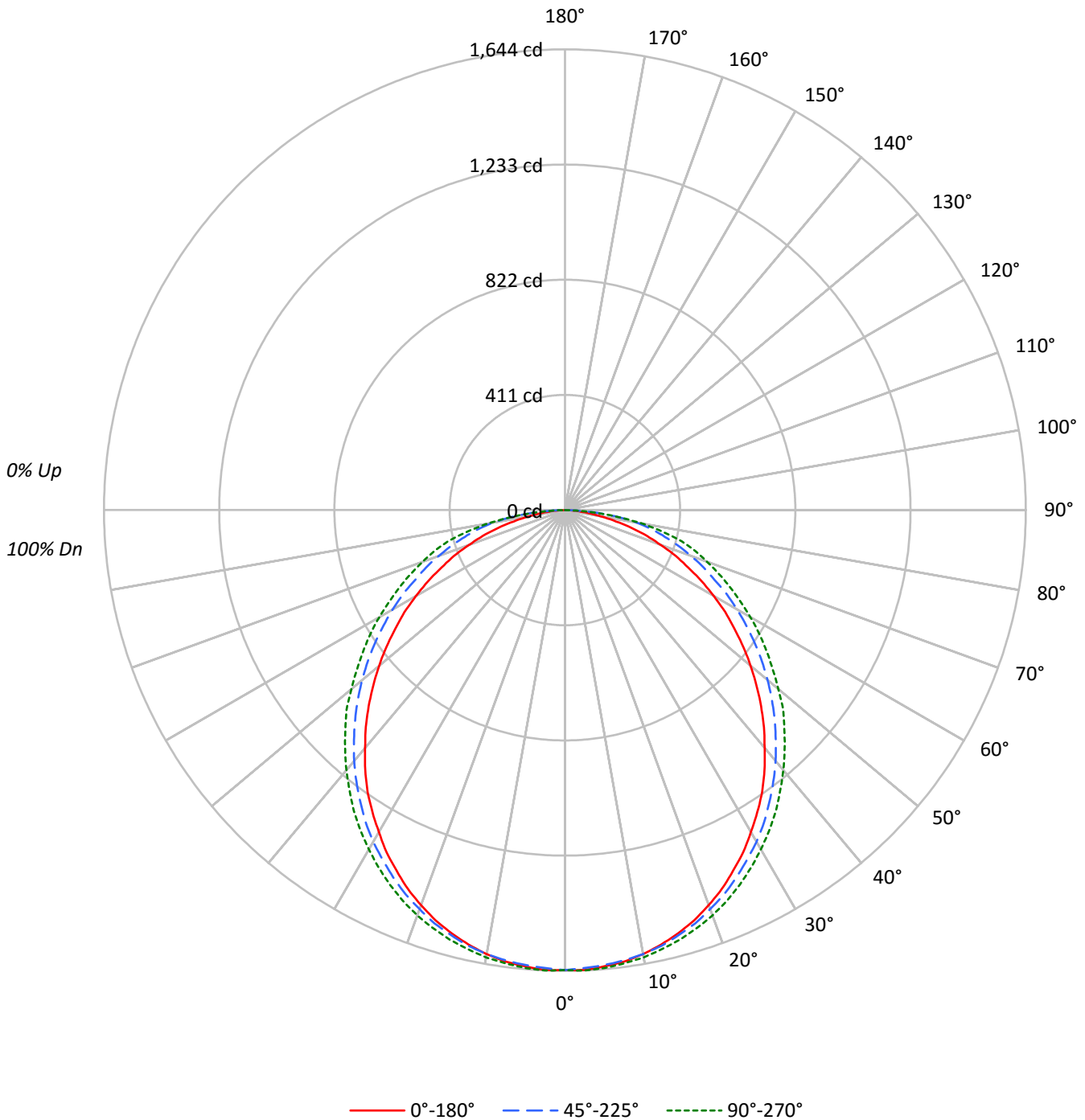
Input Watts (W): 39.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2208	2208	2208
5°	2207	2201	2215
10°	2198	2198	2214
15°	2177	2187	2210
20°	2148	2170	2203
25°	2108	2148	2190
30°	2061	2124	2172
35°	2016	2089	2155
40°	1947	2054	2129
45°	1883	2013	2107
50°	1811	1976	2081
55°	1730	1939	2061
60°	1649	1909	2057
65°	1545	1876	2069
70°	1430	1886	2125
75°	1280	1921	2245
80°	1035	2035	2196
85°	780	1788	1741



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.4	3.3
10°-20°	444.0	9.5
20°-30°	667.4	14.3
30°-40°	795.0	17.0
40°-50°	813.6	17.4
50°-60°	732.5	15.7
60°-70°	575.3	12.3
70°-80°	373.3	8.0
80°-90°	115.5	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°	1266.8	27.1
0°-40°	2061.8	44.1
0°-60°	3607.9	77.2
0°-90°	4672.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4672.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1641	1641	1641	1641	1641	
5°	1634	1637	1629	1638	1640	155
15°	1563	1567	1570	1583	1586	441
25°	1420	1432	1447	1471	1475	654
35°	1227	1242	1272	1303	1312	766
45°	990	1014	1058	1098	1107	763
55°	738	770	827	870	878	661
65°	485	522	589	638	650	483
75°	246	294	370	420	432	261
85°	50	94	116	113	113	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1641.3	1641.3	1641.3	1641.3	1641.3
2.5°	1642.8	1642.8	1635.4	1642.8	1644.3
5°	1633.9	1636.9	1629.4	1638.3	1639.8
7.5°	1625.0	1625.0	1620.5	1629.4	1630.9
10°	1608.7	1610.1	1608.7	1619.0	1620.5
12.5°	1587.9	1590.8	1592.3	1602.7	1604.2
15°	1562.7	1567.1	1570.1	1583.4	1586.4
17.5°	1534.5	1538.9	1546.3	1561.2	1564.1
20°	1500.3	1506.3	1515.2	1534.5	1538.9
22.5°	1463.2	1469.2	1484.0	1501.8	1509.2
25°	1420.2	1432.1	1446.9	1470.6	1475.1
27.5°	1377.2	1387.5	1406.8	1432.1	1438.0
30°	1326.7	1343.0	1366.8	1392.0	1397.9
32.5°	1277.7	1294.0	1322.2	1349.0	1356.4
35°	1227.3	1242.1	1271.8	1303.0	1311.9
37.5°	1169.4	1188.7	1221.3	1252.5	1261.4
40°	1108.5	1132.3	1169.4	1202.0	1212.4
42.5°	1050.7	1075.9	1113.0	1148.6	1160.5
45°	989.8	1013.6	1058.1	1098.2	1107.1
47.5°	927.5	954.2	1001.7	1041.8	1056.6
50°	865.2	893.4	943.8	985.4	994.3
52.5°	802.8	832.5	885.9	930.5	934.9
55°	737.5	770.2	826.6	869.6	878.5
57.5°	678.2	706.4	767.2	811.7	822.1
60°	612.9	644.1	709.4	750.9	764.3
62.5°	550.6	583.2	651.5	693.0	704.9
65°	485.3	522.4	589.1	638.1	650.0
67.5°	428.9	464.5	535.7	583.2	595.1
70°	363.6	403.6	479.3	528.3	540.2
72.5°	307.2	348.7	424.4	471.9	489.7
75°	246.3	293.8	369.5	420.0	431.8
77.5°	187.0	241.9	319.1	357.6	357.6
80°	133.6	191.4	262.7	280.5	283.4
82.5°	87.6	143.9	194.4	192.9	192.9
85°	50.5	93.5	115.8	112.8	112.8
87.5°	19.3	38.6	41.6	41.6	40.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)