

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: P311546

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP125-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: P311546
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-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 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: 4709.0 lumens
Efficiency: N/A
Efficacy: 121.4 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

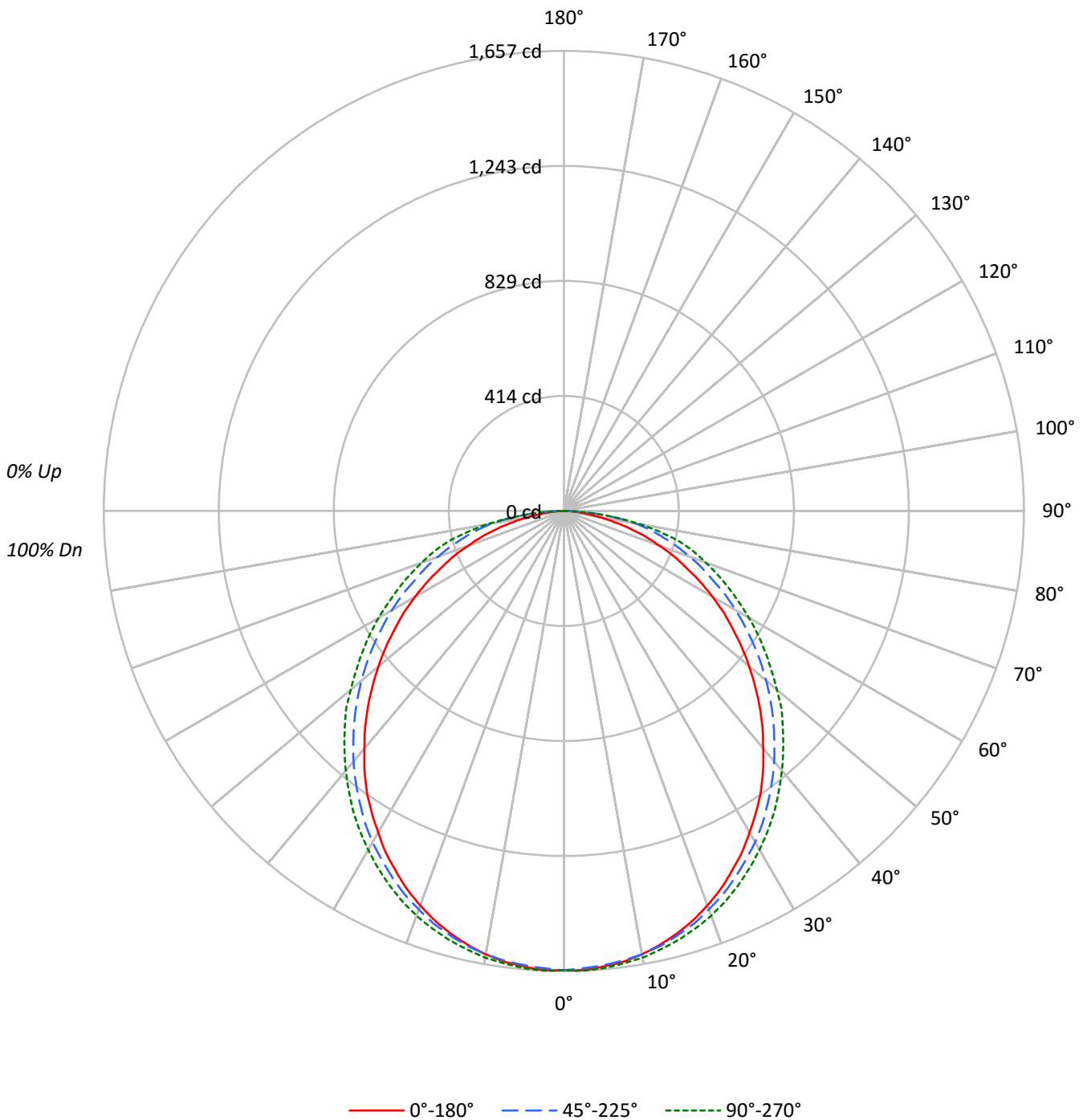
Input Watts (W): 38.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2226	2226	2226
5°	2224	2218	2232
10°	2215	2215	2232
15°	2194	2204	2227
20°	2165	2187	2221
25°	2125	2165	2207
30°	2078	2140	2189
35°	2032	2106	2172
40°	1962	2070	2146
45°	1898	2029	2123
50°	1825	1991	2098
55°	1744	1954	2077
60°	1662	1924	2073
65°	1557	1890	2086
70°	1442	1900	2142
75°	1291	1936	2263
80°	1043	2051	2214
85°	786	1802	1755



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.6	3.3
10°-20°	447.5	9.5
20°-30°	672.7	14.3
30°-40°	801.3	17.0
40°-50°	820.1	17.4
50°-60°	738.3	15.7
60°-70°	579.8	12.3
70°-80°	376.3	8.0
80°-90°	116.4	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°	1276.8	27.1
0°-40°	2078.1	44.1
0°-60°	3636.5	77.2
0°-90°	4709.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4709.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1654	1654	1654	1654	1654	
5°	1647	1650	1642	1651	1653	156
15°	1575	1580	1582	1596	1599	444
25°	1431	1443	1458	1482	1487	659
35°	1237	1252	1282	1313	1322	772
45°	998	1022	1066	1107	1116	769
55°	743	776	833	876	886	666
65°	489	526	594	643	655	487
75°	248	296	372	423	435	263
85°	51	94	117	114	114	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1654.3	1654.3	1654.3	1654.3	1654.3
2.5°	1655.8	1655.8	1648.3	1655.8	1657.3
5°	1646.8	1649.8	1642.3	1651.3	1652.8
7.5°	1637.8	1637.8	1633.4	1642.3	1643.8
10°	1621.4	1622.9	1621.4	1631.9	1633.4
12.5°	1600.5	1603.4	1604.9	1615.4	1616.9
15°	1575.0	1579.5	1582.5	1596.0	1599.0
17.5°	1546.6	1551.1	1558.6	1573.5	1576.5
20°	1512.2	1518.2	1527.2	1546.6	1551.1
22.5°	1474.8	1480.8	1495.8	1513.7	1521.2
25°	1431.4	1443.4	1458.4	1482.3	1486.8
27.5°	1388.1	1398.5	1418.0	1443.4	1449.4
30°	1337.2	1353.7	1377.6	1403.0	1409.0
32.5°	1287.8	1304.3	1332.7	1359.6	1367.1
35°	1237.0	1251.9	1281.9	1313.3	1322.2
37.5°	1178.7	1198.1	1231.0	1262.4	1271.4
40°	1117.3	1141.3	1178.7	1211.6	1222.0
42.5°	1059.0	1084.4	1121.8	1157.7	1169.7
45°	997.7	1021.6	1066.5	1106.9	1115.8
47.5°	934.8	961.8	1009.6	1050.0	1065.0
50°	872.0	900.4	951.3	993.2	1002.2
52.5°	809.2	839.1	893.0	937.8	942.3
55°	743.4	776.3	833.1	876.5	885.5
57.5°	683.6	712.0	773.3	818.2	828.6
60°	617.7	649.2	715.0	756.9	770.3
62.5°	554.9	587.8	656.6	698.5	710.5
65°	489.1	526.5	593.8	643.2	655.1
67.5°	432.3	468.2	540.0	587.8	599.8
70°	366.5	406.8	483.1	532.5	544.5
72.5°	309.6	351.5	427.8	475.6	493.6
75°	248.3	296.2	372.4	423.3	435.3
77.5°	188.5	243.8	321.6	360.5	360.5
80°	134.6	193.0	264.7	282.7	285.7
82.5°	88.2	145.1	195.9	194.4	194.4
85°	50.9	94.2	116.7	113.7	113.7
87.5°	19.4	38.9	41.9	41.9	40.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)