

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: P314401

Luminaire Tested: **24FCZ2-50-UNV-L83050-S-CP125-W2A-U-3500K**

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: P314401
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: 24FCZ2-50-UNV-L83050-S-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (168) 3500K 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: 4695.0 lumens
Efficiency: N/A
Efficacy: 110.0 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

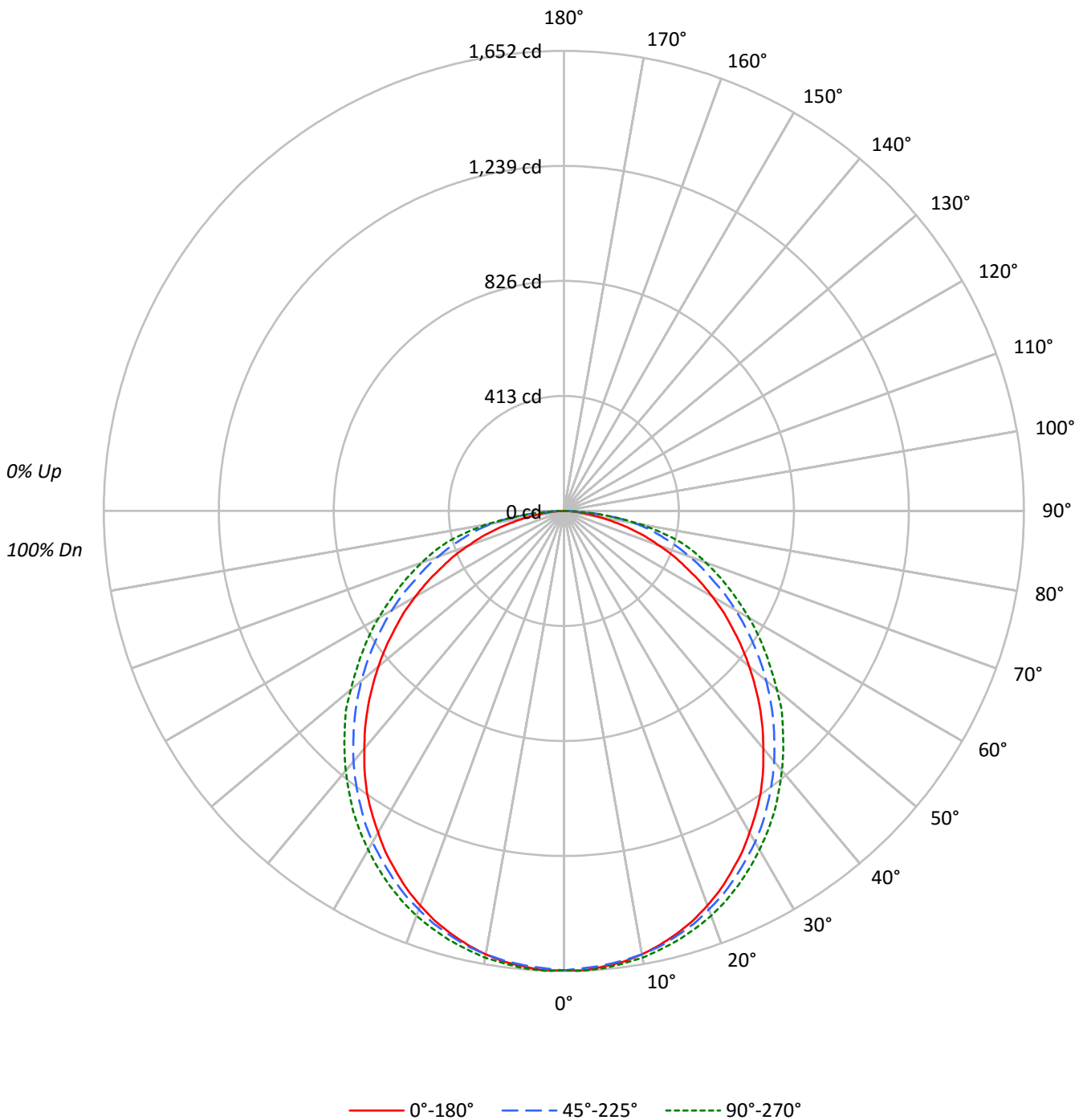
Input Watts (W): 42.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2219	2219	2219
5°	2218	2212	2226
10°	2209	2209	2225
15°	2187	2198	2221
20°	2159	2180	2214
25°	2119	2159	2201
30°	2071	2134	2183
35°	2026	2099	2165
40°	1957	2064	2140
45°	1893	2023	2117
50°	1820	1985	2092
55°	1739	1949	2071
60°	1657	1918	2067
65°	1553	1885	2080
70°	1437	1895	2135
75°	1287	1930	2256
80°	1040	2046	2207
85°	783	1795	1749



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.1	3.3
10°-20°	446.2	9.5
20°-30°	670.7	14.3
30°-40°	798.9	17.0
40°-50°	817.6	17.4
50°-60°	736.1	15.7
60°-70°	578.1	12.3
70°-80°	375.2	8.0
80°-90°	116.1	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°	1273.0	27.1
0°-40°	2071.9	44.1
0°-60°	3625.7	77.2
0°-90°	4695.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4695.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1649	1649	1649	1649	1649	
5°	1642	1645	1638	1646	1648	156
15°	1570	1575	1578	1591	1594	443
25°	1427	1439	1454	1478	1482	657
35°	1233	1248	1278	1309	1318	769
45°	995	1019	1063	1104	1112	767
55°	741	774	831	874	883	664
65°	488	525	592	641	653	485
75°	248	295	371	422	434	262
85°	51	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°	1649.4	1649.4	1649.4	1649.4	1649.4
2.5°	1650.9	1650.9	1643.4	1650.9	1652.4
5°	1641.9	1644.9	1637.5	1646.4	1647.9
7.5°	1633.0	1633.0	1628.5	1637.5	1638.9
10°	1616.6	1618.1	1616.6	1627.0	1628.5
12.5°	1595.7	1598.7	1600.2	1610.6	1612.1
15°	1570.3	1574.8	1577.8	1591.2	1594.2
17.5°	1542.0	1546.5	1553.9	1568.9	1571.8
20°	1507.7	1513.7	1522.6	1542.0	1546.5
22.5°	1470.4	1476.4	1491.3	1509.2	1516.7
25°	1427.2	1439.1	1454.0	1477.9	1482.4
27.5°	1383.9	1394.4	1413.8	1439.1	1445.1
30°	1333.2	1349.6	1373.5	1398.8	1404.8
32.5°	1284.0	1300.4	1328.8	1355.6	1363.1
35°	1233.3	1248.2	1278.0	1309.4	1318.3
37.5°	1175.1	1194.5	1227.3	1258.7	1267.6
40°	1114.0	1137.9	1175.1	1208.0	1218.4
42.5°	1055.8	1081.2	1118.5	1154.3	1166.2
45°	994.7	1018.6	1063.3	1103.6	1112.5
47.5°	932.1	958.9	1006.6	1046.9	1061.8
50°	869.4	897.8	948.5	990.2	999.2
52.5°	806.8	836.6	890.3	935.0	939.5
55°	741.2	774.0	830.7	873.9	882.9
57.5°	681.5	709.9	771.0	815.7	826.2
60°	615.9	647.2	712.8	754.6	768.0
62.5°	553.3	586.1	654.7	696.4	708.4
65°	487.7	524.9	592.0	641.3	653.2
67.5°	431.0	466.8	538.4	586.1	598.0
70°	365.4	405.6	481.7	530.9	542.8
72.5°	308.7	350.5	426.5	474.2	492.1
75°	247.6	295.3	371.3	422.0	434.0
77.5°	187.9	243.1	320.6	359.4	359.4
80°	134.2	192.4	264.0	281.9	284.8
82.5°	88.0	144.7	195.4	193.9	193.9
85°	50.7	94.0	116.3	113.3	113.3
87.5°	19.4	38.8	41.8	41.8	40.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)