

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: P314411

Luminaire Tested: **24FCZ2-50-UNV-L83050-S-CP250-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: P314411
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-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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: 4460.0 lumens
Efficiency: N/A
Efficacy: 104.4 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

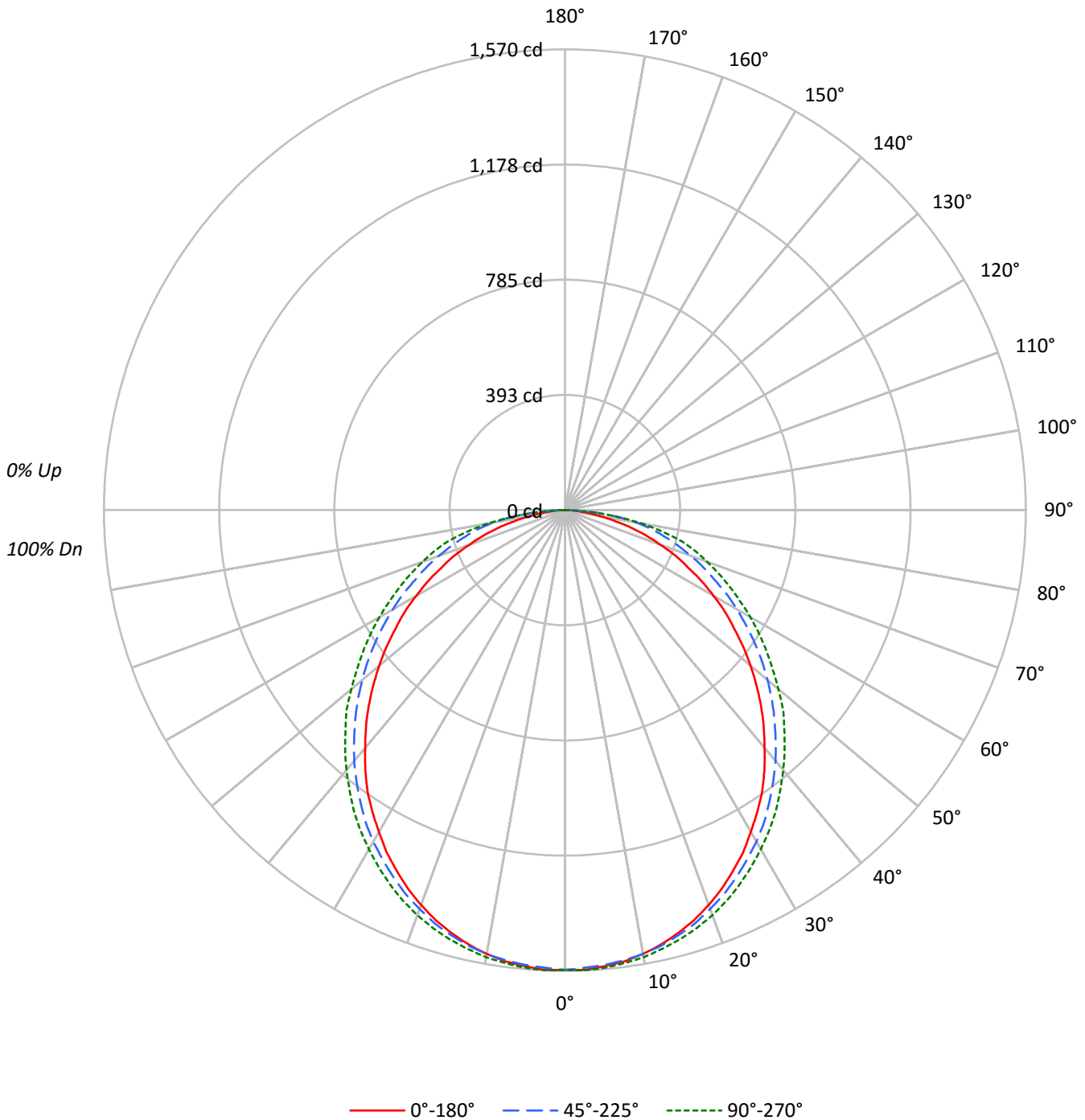
Input Watts (W): 42.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2108	2108	2108
5°	2107	2101	2114
10°	2098	2098	2114
15°	2078	2088	2109
20°	2051	2071	2104
25°	2013	2051	2091
30°	1968	2027	2073
35°	1924	1994	2057
40°	1859	1961	2033
45°	1798	1922	2011
50°	1729	1886	1987
55°	1652	1851	1967
60°	1574	1822	1963
65°	1475	1791	1975
70°	1365	1800	2029
75°	1223	1834	2143
80°	988	1943	2097
85°	744	1706	1663



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.3	3.3
10°-20°	423.8	9.5
20°-30°	637.1	14.3
30°-40°	758.9	17.0
40°-50°	776.7	17.4
50°-60°	699.3	15.7
60°-70°	549.1	12.3
70°-80°	356.4	8.0
80°-90°	110.2	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°	1209.3	27.1
0°-40°	1968.2	44.1
0°-60°	3444.2	77.2
0°-90°	4460.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4460.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1567	1567	1567	1567	1567	
5°	1560	1563	1556	1564	1565	148
15°	1492	1496	1499	1512	1514	421
25°	1356	1367	1381	1404	1408	625
35°	1172	1186	1214	1244	1252	731
45°	945	968	1010	1048	1057	728
55°	704	735	789	830	839	631
65°	463	499	562	609	620	461
75°	235	280	353	401	412	249
85°	48	89	110	108	108	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1566.8	1566.8	1566.8	1566.8	1566.8
2.5°	1568.2	1568.2	1561.2	1568.2	1569.7
5°	1559.7	1562.6	1555.5	1564.0	1565.4
7.5°	1551.2	1551.2	1547.0	1555.5	1556.9
10°	1535.7	1537.1	1535.7	1545.6	1547.0
12.5°	1515.8	1518.7	1520.1	1530.0	1531.4
15°	1491.7	1496.0	1498.8	1511.6	1514.4
17.5°	1464.8	1469.1	1476.2	1490.3	1493.2
20°	1432.2	1437.9	1446.4	1464.8	1469.1
22.5°	1396.8	1402.5	1416.7	1433.7	1440.7
25°	1355.7	1367.1	1381.2	1403.9	1408.2
27.5°	1314.7	1324.6	1343.0	1367.1	1372.7
30°	1266.5	1282.1	1304.7	1328.8	1334.5
32.5°	1219.7	1235.3	1262.2	1287.7	1294.8
35°	1171.6	1185.7	1214.1	1243.8	1252.3
37.5°	1116.3	1134.7	1165.9	1195.7	1204.2
40°	1058.2	1080.9	1116.3	1147.5	1157.4
42.5°	1003.0	1027.1	1062.5	1096.5	1107.8
45°	944.9	967.6	1010.1	1048.3	1056.8
47.5°	885.4	910.9	956.2	994.5	1008.7
50°	825.9	852.8	901.0	940.7	949.2
52.5°	766.4	794.7	845.7	888.2	892.5
55°	704.1	735.2	789.1	830.2	838.7
57.5°	647.4	674.3	732.4	774.9	784.8
60°	585.1	614.8	677.2	716.8	729.6
62.5°	525.6	556.7	621.9	661.6	672.9
65°	463.2	498.7	562.4	609.2	620.5
67.5°	409.4	443.4	511.4	556.7	568.1
70°	347.1	385.3	457.6	504.3	515.7
72.5°	293.2	332.9	405.2	450.5	467.5
75°	235.2	280.5	352.7	400.9	412.2
77.5°	178.5	230.9	304.6	341.4	341.4
80°	127.5	182.7	250.7	267.7	270.6
82.5°	83.6	137.4	185.6	184.2	184.2
85°	48.2	89.2	110.5	107.7	107.7
87.5°	18.4	36.8	39.7	39.7	38.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)