

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: P311608

Luminaire Tested: **24FCZ2-50-UNV-L82765-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: P311608
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-L82765-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: 4355.0 lumens
Efficiency: N/A
Efficacy: 101.5 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

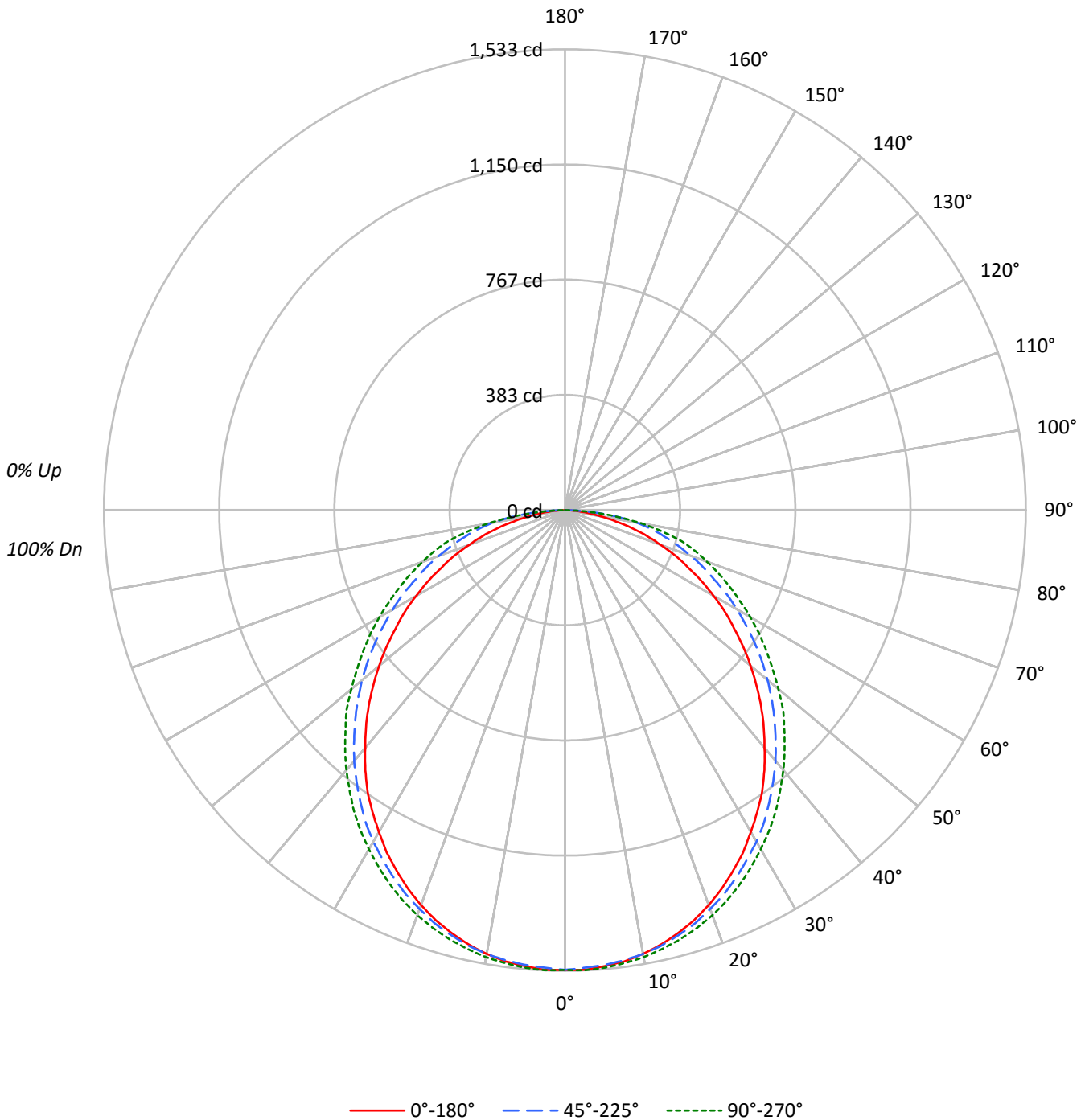
Input Watts (W): 42.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2058	2058	2058
5°	2057	2051	2065
10°	2049	2049	2064
15°	2029	2039	2060
20°	2002	2022	2054
25°	1965	2002	2041
30°	1921	1979	2025
35°	1879	1947	2008
40°	1815	1914	1985
45°	1756	1877	1964
50°	1688	1842	1940
55°	1613	1807	1921
60°	1537	1779	1917
65°	1440	1748	1929
70°	1333	1758	1981
75°	1194	1790	2092
80°	965	1897	2047
85°	726	1666	1623



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.8	3.3
10°-20°	413.9	9.5
20°-30°	622.1	14.3
30°-40°	741.0	17.0
40°-50°	758.4	17.4
50°-60°	682.8	15.7
60°-70°	536.2	12.3
70°-80°	348.0	8.0
80°-90°	107.6	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°	1180.8	27.1
0°-40°	1921.9	44.1
0°-60°	3363.1	77.2
0°-90°	4355.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4355.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1530	1530	1530	1530	1530	
5°	1523	1526	1519	1527	1529	145
15°	1457	1461	1464	1476	1479	411
25°	1324	1335	1349	1371	1375	610
35°	1144	1158	1186	1214	1223	714
45°	923	945	986	1024	1032	711
55°	688	718	770	811	819	616
65°	452	487	549	595	606	450
75°	230	274	344	392	402	243
85°	47	87	108	105	105	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1529.9	1529.9	1529.9	1529.9	1529.9
2.5°	1531.3	1531.3	1524.4	1531.3	1532.7
5°	1523.0	1525.8	1518.9	1527.2	1528.6
7.5°	1514.7	1514.7	1510.6	1518.9	1520.3
10°	1499.5	1500.9	1499.5	1509.2	1510.6
12.5°	1480.1	1482.9	1484.3	1494.0	1495.4
15°	1456.6	1460.8	1463.5	1476.0	1478.8
17.5°	1430.3	1434.5	1441.4	1455.2	1458.0
20°	1398.5	1404.1	1412.4	1430.3	1434.5
22.5°	1363.9	1369.5	1383.3	1399.9	1406.8
25°	1323.8	1334.9	1348.7	1370.9	1375.0
27.5°	1283.7	1293.4	1311.4	1334.9	1340.4
30°	1236.7	1251.9	1274.0	1297.5	1303.1
32.5°	1191.0	1206.2	1232.5	1257.4	1264.3
35°	1144.0	1157.8	1185.5	1214.5	1222.8
37.5°	1090.0	1108.0	1138.5	1167.5	1175.8
40°	1033.3	1055.5	1090.0	1120.5	1130.2
42.5°	979.4	1002.9	1037.5	1070.7	1081.7
45°	922.7	944.8	986.3	1023.6	1031.9
47.5°	864.6	889.5	933.7	971.1	984.9
50°	806.5	832.8	879.8	918.5	926.8
52.5°	748.4	776.0	825.8	867.3	871.5
55°	687.5	717.9	770.5	810.6	818.9
57.5°	632.2	658.5	715.2	756.7	766.4
60°	571.3	600.4	661.2	700.0	712.4
62.5°	513.2	543.6	607.3	646.0	657.1
65°	452.3	486.9	549.2	594.8	605.9
67.5°	399.8	433.0	499.4	543.6	554.7
70°	338.9	376.3	446.8	492.5	503.5
72.5°	286.3	325.1	395.6	439.9	456.5
75°	229.6	273.9	344.4	391.5	402.5
77.5°	174.3	225.5	297.4	333.4	333.4
80°	124.5	178.4	244.8	261.4	264.2
82.5°	81.6	134.2	181.2	179.8	179.8
85°	47.0	87.1	107.9	105.1	105.1
87.5°	18.0	36.0	38.7	38.7	37.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)