

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: P314390

Luminaire Tested: **24FCZ2-50-UNV-L83050-S-CA08-W2A-U-3000K**

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: P314390
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3000K 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

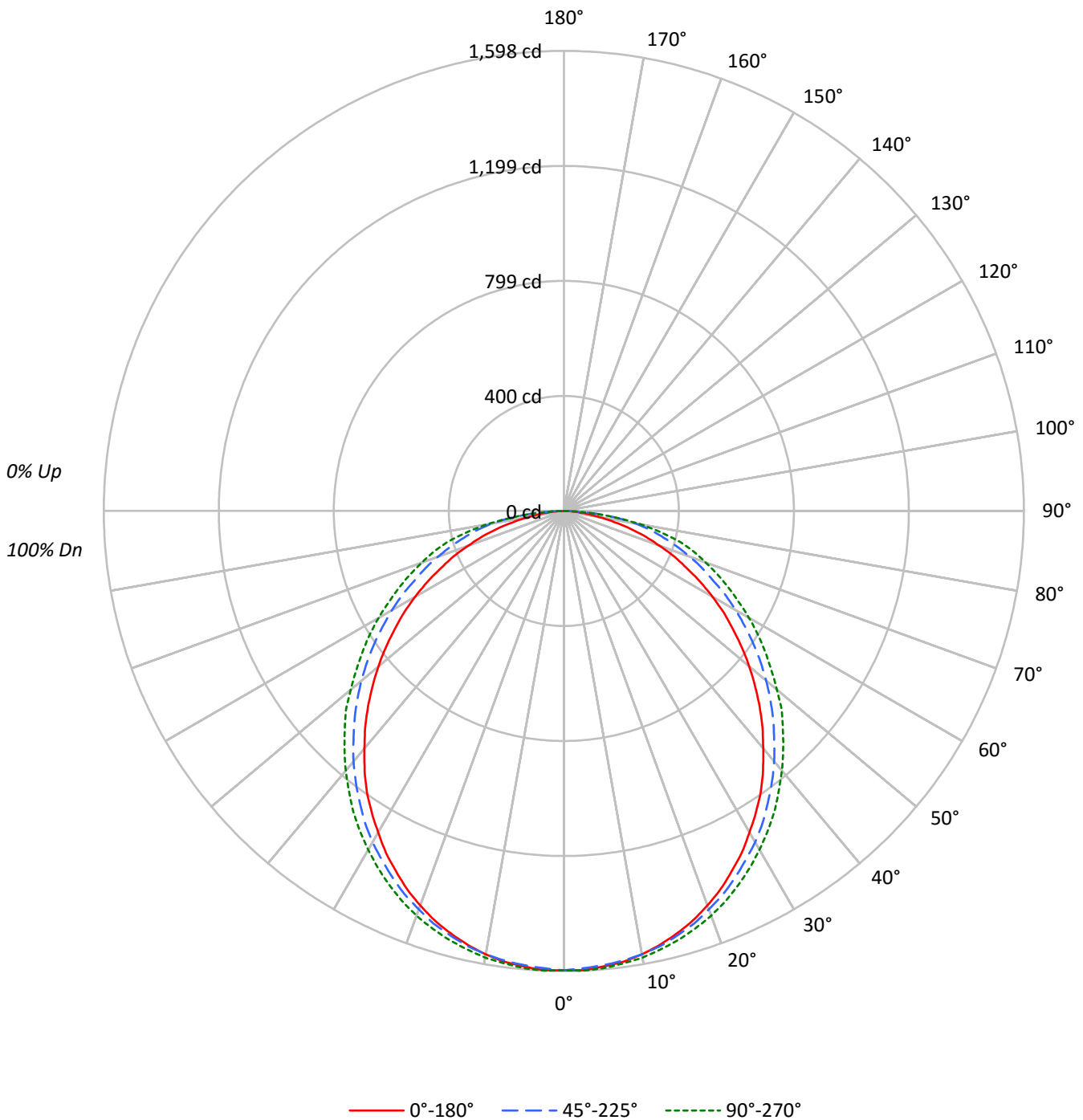
Lumens per Lamp: N/A
Luminaire Lumens: 4541.0 lumens
Efficiency: N/A
Efficacy: 106.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 42.6
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°	2146	2146	2146
5°	2145	2139	2153
10°	2136	2136	2152
15°	2116	2126	2148
20°	2088	2109	2142
25°	2049	2088	2128
30°	2003	2064	2111
35°	1959	2030	2094
40°	1893	1996	2070
45°	1831	1957	2047
50°	1760	1920	2023
55°	1682	1885	2003
60°	1603	1855	1999
65°	1502	1823	2011
70°	1390	1833	2065
75°	1245	1867	2182
80°	1006	1978	2135
85°	756	1737	1692



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.0	3.3
10°-20°	431.5	9.5
20°-30°	648.7	14.3
30°-40°	772.7	17.0
40°-50°	790.8	17.4
50°-60°	712.0	15.7
60°-70°	559.1	12.3
70°-80°	362.9	8.0
80°-90°	112.2	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°	1231.3	27.1
0°-40°	2004.0	44.1
0°-60°	3506.8	77.2
0°-90°	4541.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4541.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1595	1595	1595	1595	1595	
5°	1588	1591	1584	1592	1594	151
15°	1519	1523	1526	1539	1542	428
25°	1380	1392	1406	1429	1434	636
35°	1193	1207	1236	1266	1275	744
45°	962	985	1028	1067	1076	742
55°	717	749	803	845	854	643
65°	472	508	573	620	632	470
75°	239	286	359	408	420	253
85°	49	91	112	110	110	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1595.3	1595.3	1595.3	1595.3	1595.3
2.5°	1596.7	1596.7	1589.5	1596.7	1598.2
5°	1588.1	1591.0	1583.7	1592.4	1593.8
7.5°	1579.4	1579.4	1575.1	1583.7	1585.2
10°	1563.6	1565.0	1563.6	1573.6	1575.1
12.5°	1543.4	1546.2	1547.7	1557.8	1559.2
15°	1518.8	1523.2	1526.0	1539.0	1541.9
17.5°	1491.4	1495.8	1503.0	1517.4	1520.3
20°	1458.3	1464.0	1472.7	1491.4	1495.8
22.5°	1422.2	1428.0	1442.4	1459.7	1466.9
25°	1380.4	1391.9	1406.3	1429.4	1433.7
27.5°	1338.5	1348.6	1367.4	1391.9	1397.7
30°	1289.5	1305.4	1328.4	1353.0	1358.7
32.5°	1241.9	1257.8	1285.2	1311.1	1318.3
35°	1192.9	1207.3	1236.1	1266.4	1275.1
37.5°	1136.6	1155.4	1187.1	1217.4	1226.0
40°	1077.5	1100.5	1136.6	1168.3	1178.4
42.5°	1021.2	1045.7	1081.8	1116.4	1127.9
45°	962.1	985.2	1028.4	1067.4	1076.0
47.5°	901.5	927.5	973.6	1012.6	1027.0
50°	840.9	868.3	917.4	957.7	966.4
52.5°	780.3	809.2	861.1	904.4	908.7
55°	716.9	748.6	803.4	845.2	853.9
57.5°	659.2	686.6	745.7	789.0	799.1
60°	595.7	626.0	689.5	729.8	742.8
62.5°	535.1	566.9	633.2	673.6	685.1
65°	471.7	507.7	572.6	620.2	631.8
67.5°	416.9	451.5	520.7	566.9	578.4
70°	353.4	392.3	465.9	513.5	525.0
72.5°	298.6	339.0	412.5	458.7	476.0
75°	239.4	285.6	359.2	408.2	419.7
77.5°	181.7	235.1	310.1	347.6	347.6
80°	129.8	186.1	255.3	272.6	275.5
82.5°	85.1	139.9	189.0	187.5	187.5
85°	49.0	90.9	112.5	109.6	109.6
87.5°	18.8	37.5	40.4	40.4	38.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)