

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: P314381

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-S-CP187-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: P314381
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-L83050-S-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 4518.0 lumens
Efficiency: N/A
Efficacy: 117.7 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

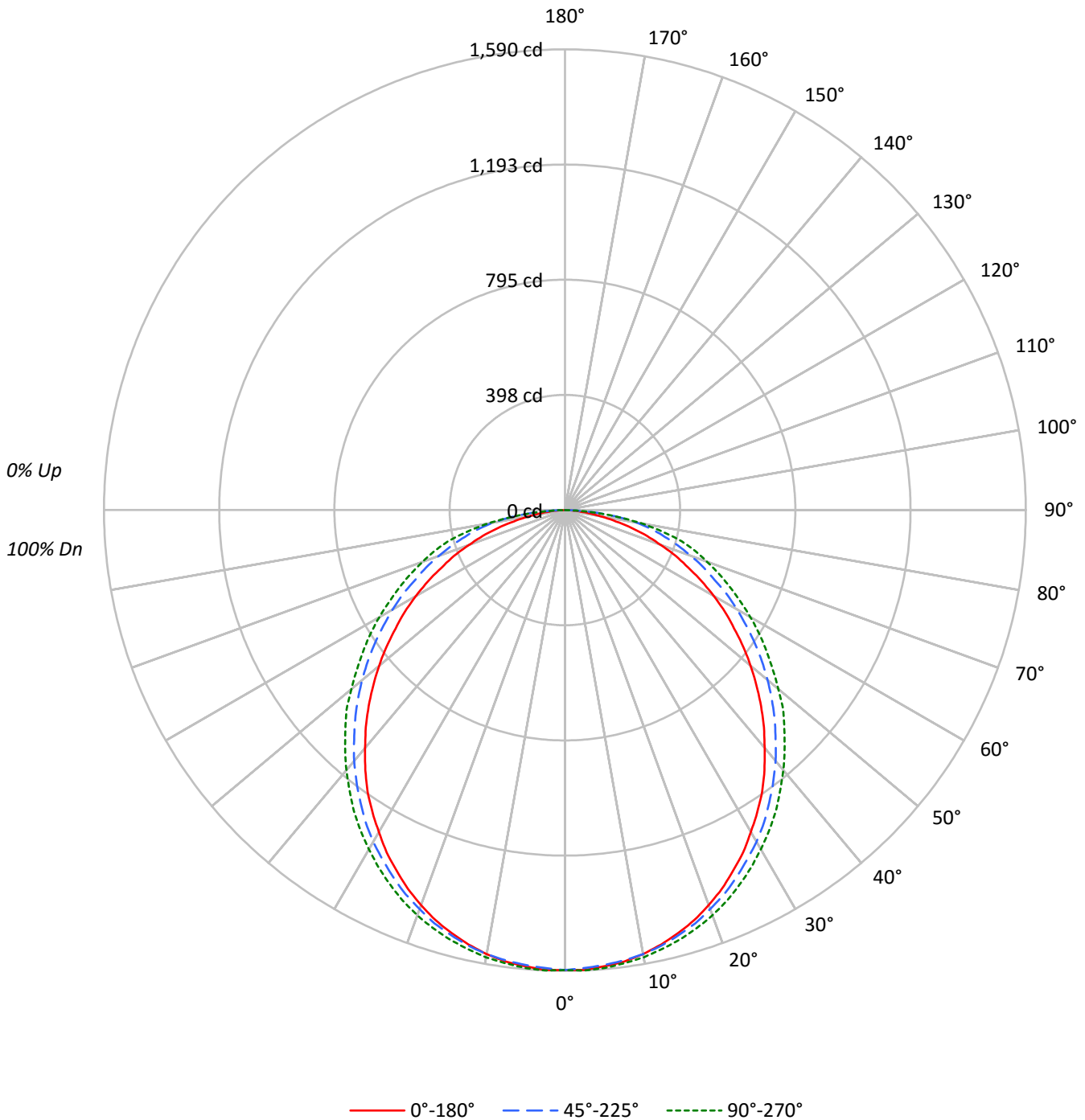
Input Watts (W): 38.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2136	2136	2136
5°	2134	2128	2142
10°	2125	2125	2141
15°	2105	2115	2137
20°	2077	2098	2131
25°	2039	2077	2118
30°	1993	2053	2100
35°	1949	2020	2084
40°	1883	1986	2059
45°	1821	1947	2037
50°	1751	1910	2013
55°	1673	1875	1993
60°	1595	1846	1989
65°	1494	1814	2001
70°	1383	1823	2055
75°	1238	1857	2171
80°	1001	1968	2124
85°	753	1727	1684



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.3	3.3
10°-20°	429.3	9.5
20°-30°	645.4	14.3
30°-40°	768.8	17.0
40°-50°	786.8	17.4
50°-60°	708.4	15.7
60°-70°	556.3	12.3
70°-80°	361.0	8.0
80°-90°	111.7	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°	1225.0	27.1
0°-40°	1993.8	44.1
0°-60°	3489.0	77.2
0°-90°	4518.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4518.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1587	1587	1587	1587	1587	
5°	1580	1583	1576	1584	1586	150
15°	1511	1515	1518	1531	1534	426
25°	1373	1385	1399	1422	1426	633
35°	1187	1201	1230	1260	1269	740
45°	957	980	1023	1062	1071	738
55°	713	745	799	841	850	639
65°	469	505	570	617	629	467
75°	238	284	357	406	418	252
85°	49	90	112	109	109	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1587.2	1587.2	1587.2	1587.2	1587.2
2.5°	1588.6	1588.6	1581.5	1588.6	1590.1
5°	1580.0	1582.9	1575.7	1584.3	1585.8
7.5°	1571.4	1571.4	1567.1	1575.7	1577.2
10°	1555.6	1557.1	1555.6	1565.7	1567.1
12.5°	1535.5	1538.4	1539.8	1549.9	1551.3
15°	1511.1	1515.4	1518.3	1531.2	1534.1
17.5°	1483.9	1488.2	1495.4	1509.7	1512.6
20°	1450.9	1456.6	1465.2	1483.9	1488.2
22.5°	1415.0	1420.7	1435.1	1452.3	1459.5
25°	1373.4	1384.9	1399.2	1422.2	1426.5
27.5°	1331.8	1341.8	1360.5	1384.9	1390.6
30°	1283.0	1298.8	1321.7	1346.1	1351.8
32.5°	1235.6	1251.4	1278.7	1304.5	1311.7
35°	1186.8	1201.2	1229.9	1260.0	1268.6
37.5°	1130.8	1149.5	1181.1	1211.2	1219.8
40°	1072.0	1095.0	1130.8	1162.4	1172.5
42.5°	1016.0	1040.4	1076.3	1110.8	1122.2
45°	957.2	980.2	1023.2	1062.0	1070.6
47.5°	896.9	922.8	968.7	1007.4	1021.8
50°	836.7	863.9	912.7	952.9	961.5
52.5°	776.4	805.1	856.7	899.8	904.1
55°	713.2	744.8	799.3	841.0	849.6
57.5°	655.8	683.1	741.9	785.0	795.0
60°	592.7	622.8	686.0	726.2	739.1
62.5°	532.4	564.0	630.0	670.2	681.7
65°	469.3	505.1	569.7	617.1	628.6
67.5°	414.7	449.2	518.1	564.0	575.5
70°	351.6	390.3	463.5	510.9	522.4
72.5°	297.1	337.2	410.4	456.4	473.6
75°	238.2	284.1	357.3	406.1	417.6
77.5°	180.8	233.9	308.5	345.9	345.9
80°	129.2	185.1	254.0	271.2	274.1
82.5°	84.7	139.2	188.0	186.6	186.6
85°	48.8	90.4	111.9	109.1	109.1
87.5°	18.7	37.3	40.2	40.2	38.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)