

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: P314384

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-S-CP187-W2A-U-5000K**

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: P314384
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 4789.0 lumens
Efficiency: N/A
Efficacy: 118.8 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

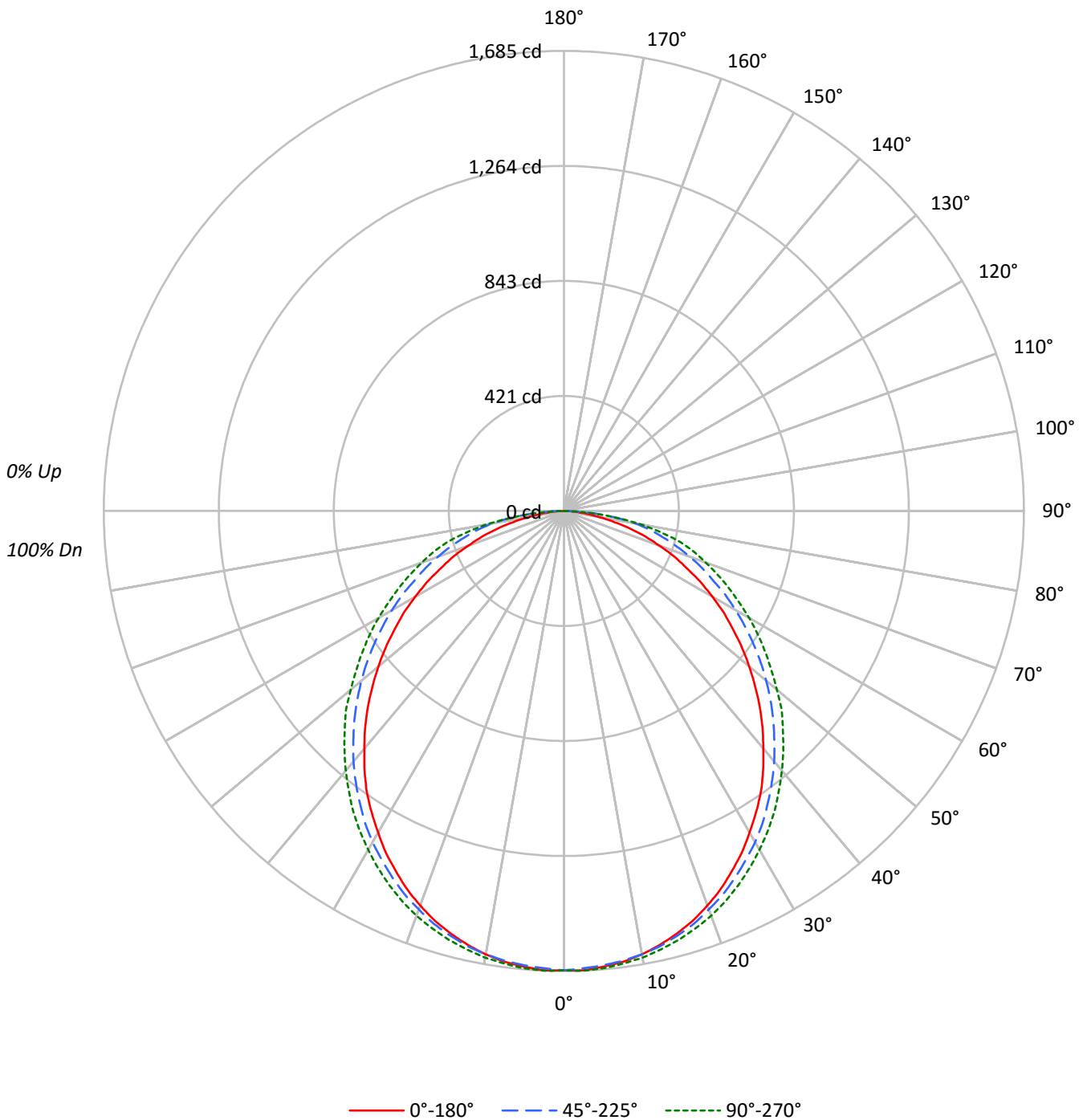
Input Watts (W): 40.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2264	2264	2264
5°	2262	2256	2270
10°	2253	2253	2269
15°	2231	2242	2265
20°	2202	2224	2259
25°	2161	2202	2245
30°	2113	2177	2226
35°	2066	2141	2209
40°	1996	2105	2183
45°	1931	2064	2159
50°	1856	2025	2133
55°	1773	1988	2112
60°	1690	1957	2108
65°	1584	1923	2121
70°	1466	1933	2178
75°	1313	1969	2301
80°	1061	2086	2251
85°	798	1832	1785



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.3	3.3
10°-20°	455.1	9.5
20°-30°	684.1	14.3
30°-40°	814.9	17.0
40°-50°	834.0	17.4
50°-60°	750.9	15.7
60°-70°	589.7	12.3
70°-80°	382.7	8.0
80°-90°	118.4	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°	1298.5	27.1
0°-40°	2113.4	44.1
0°-60°	3698.3	77.2
0°-90°	4789.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4789.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1682	1682	1682	1682	1682	
5°	1675	1678	1670	1679	1681	159
15°	1602	1606	1609	1623	1626	452
25°	1456	1468	1483	1508	1512	671
35°	1258	1273	1304	1336	1345	785
45°	1015	1039	1085	1126	1135	782
55°	756	790	847	891	900	678
65°	497	535	604	654	666	495
75°	252	301	379	430	443	267
85°	52	96	119	116	116	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1682.4	1682.4	1682.4	1682.4	1682.4
2.5°	1683.9	1683.9	1676.3	1683.9	1685.4
5°	1674.8	1677.8	1670.2	1679.4	1680.9
7.5°	1665.7	1665.7	1661.1	1670.2	1671.8
10°	1648.9	1650.5	1648.9	1659.6	1661.1
12.5°	1627.6	1630.7	1632.2	1642.9	1644.4
15°	1601.8	1606.3	1609.4	1623.1	1626.1
17.5°	1572.9	1577.4	1585.1	1600.3	1603.3
20°	1537.9	1544.0	1553.1	1572.9	1577.4
22.5°	1499.9	1506.0	1521.2	1539.4	1547.0
25°	1455.8	1467.9	1483.1	1507.5	1512.0
27.5°	1411.6	1422.3	1442.1	1467.9	1474.0
30°	1359.9	1376.7	1401.0	1426.9	1432.9
32.5°	1309.7	1326.5	1355.4	1382.7	1390.3
35°	1258.0	1273.2	1303.6	1335.6	1344.7
37.5°	1198.7	1218.5	1251.9	1283.9	1293.0
40°	1136.3	1160.6	1198.7	1232.1	1242.8
42.5°	1077.0	1102.8	1140.9	1177.4	1189.5
45°	1014.6	1039.0	1084.6	1125.7	1134.8
47.5°	950.7	978.1	1026.8	1067.9	1083.1
50°	886.8	915.7	967.5	1010.1	1019.2
52.5°	822.9	853.4	908.1	953.8	958.3
55°	756.0	789.5	847.3	891.4	900.5
57.5°	695.2	724.1	786.4	832.1	842.7
60°	628.2	660.2	727.1	769.7	783.4
62.5°	564.4	597.8	667.8	710.4	722.6
65°	497.4	535.4	603.9	654.1	666.3
67.5°	439.6	476.1	549.1	597.8	610.0
70°	372.7	413.8	491.3	541.5	553.7
72.5°	314.9	357.5	435.1	483.7	502.0
75°	252.5	301.2	378.8	430.5	442.7
77.5°	191.7	247.9	327.1	366.6	366.6
80°	136.9	196.2	269.2	287.5	290.5
82.5°	89.7	147.6	199.3	197.8	197.8
85°	51.7	95.8	118.7	115.6	115.6
87.5°	19.8	39.6	42.6	42.6	41.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)