

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: P311602

Luminaire Tested: **24FCZ2-50-UNV-L82765-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: P311602
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-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 4629.0 lumens
Efficiency: N/A
Efficacy: 105.9 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

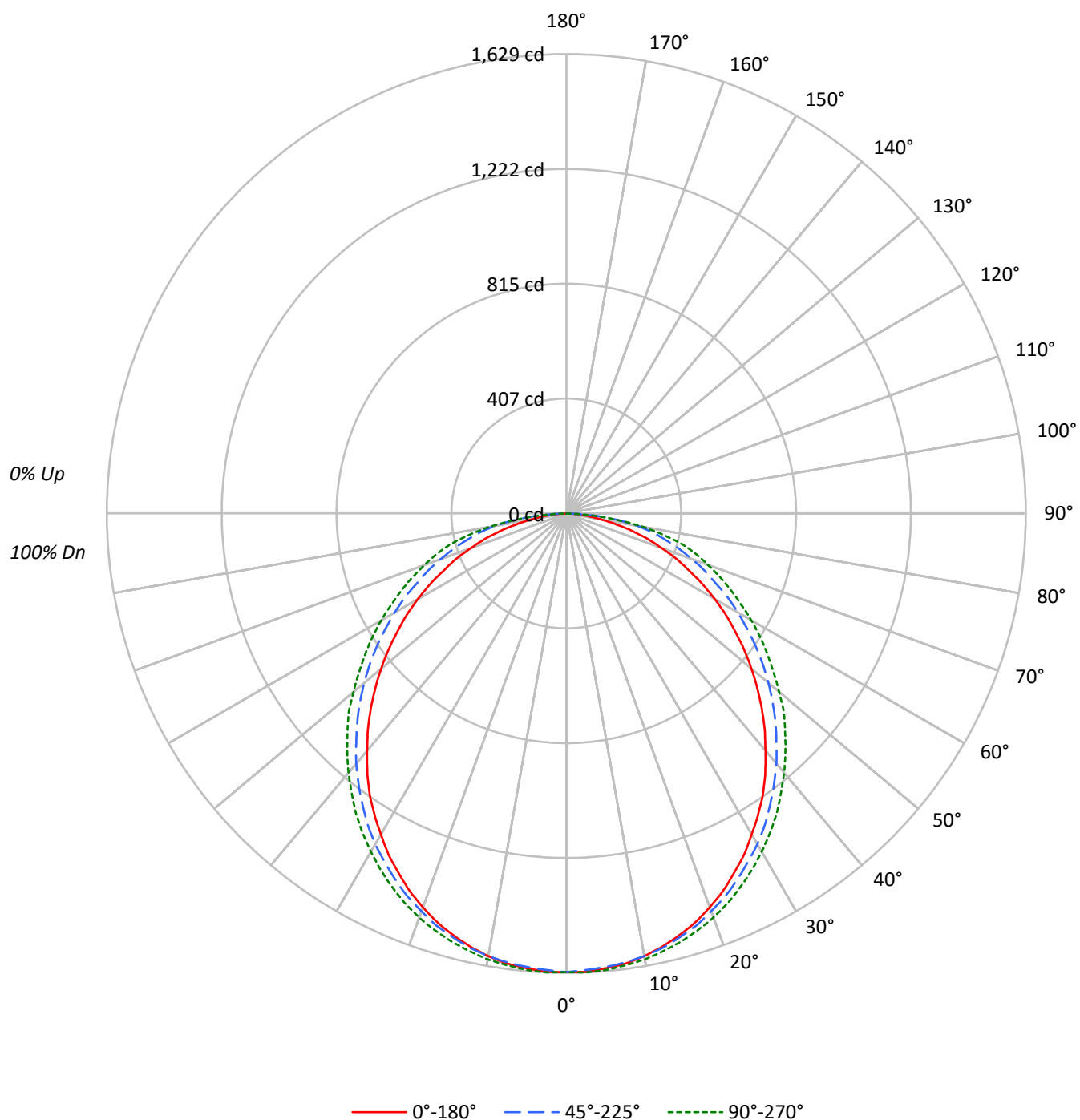
Input Watts (W): 43.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2188	2188	2188
5°	2186	2180	2194
10°	2178	2178	2194
15°	2157	2167	2189
20°	2128	2149	2183
25°	2089	2128	2170
30°	2042	2104	2152
35°	1997	2070	2135
40°	1929	2035	2110
45°	1866	1995	2087
50°	1794	1957	2062
55°	1714	1921	2042
60°	1634	1891	2038
65°	1531	1858	2050
70°	1417	1868	2105
75°	1269	1903	2224
80°	1025	2017	2176
85°	772	1771	1724



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.0	3.3
10°-20°	439.9	9.5
20°-30°	661.3	14.3
30°-40°	787.7	17.0
40°-50°	806.2	17.4
50°-60°	725.8	15.7
60°-70°	569.9	12.3
70°-80°	369.9	8.0
80°-90°	114.4	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°	1255.1	27.1
0°-40°	2042.8	44.1
0°-60°	3574.7	77.2
0°-90°	4629.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4629.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1626	1626	1626	1626	1626	
5°	1619	1622	1614	1623	1625	154
15°	1548	1553	1556	1569	1572	437
25°	1407	1419	1434	1457	1462	648
35°	1216	1231	1260	1291	1300	759
45°	981	1004	1048	1088	1097	756
55°	731	763	819	862	870	655
65°	481	518	584	632	644	479
75°	244	291	366	416	428	258
85°	50	93	115	112	112	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1626.2	1626.2	1626.2	1626.2	1626.2
2.5°	1627.7	1627.7	1620.3	1627.7	1629.1
5°	1618.8	1621.8	1614.4	1623.3	1624.7
7.5°	1610.0	1610.0	1605.6	1614.4	1615.9
10°	1593.9	1595.3	1593.9	1604.1	1605.6
12.5°	1573.3	1576.2	1577.7	1588.0	1589.4
15°	1548.3	1552.7	1555.6	1568.9	1571.8
17.5°	1520.3	1524.7	1532.1	1546.8	1549.7
20°	1486.5	1492.4	1501.2	1520.3	1524.7
22.5°	1449.8	1455.6	1470.3	1488.0	1495.3
25°	1407.1	1418.9	1433.6	1457.1	1461.5
27.5°	1364.5	1374.8	1393.9	1418.9	1424.8
30°	1314.5	1330.7	1354.2	1379.2	1385.1
32.5°	1266.0	1282.1	1310.1	1336.5	1343.9
35°	1216.0	1230.7	1260.1	1291.0	1299.8
37.5°	1158.6	1177.7	1210.1	1241.0	1249.8
40°	1098.3	1121.9	1158.6	1191.0	1201.3
42.5°	1041.0	1066.0	1102.8	1138.0	1149.8
45°	980.7	1004.2	1048.4	1088.1	1096.9
47.5°	919.0	945.4	992.5	1032.2	1046.9
50°	857.2	885.1	935.1	976.3	985.1
52.5°	795.5	824.9	877.8	921.9	926.3
55°	730.8	763.1	819.0	861.6	870.4
57.5°	671.9	699.9	760.2	804.3	814.6
60°	607.3	638.1	702.8	744.0	757.2
62.5°	545.5	577.8	645.5	686.6	698.4
65°	480.8	517.6	583.7	632.2	644.0
67.5°	424.9	460.2	530.8	577.8	589.6
70°	360.2	399.9	474.9	523.4	535.2
72.5°	304.4	345.5	420.5	467.6	485.2
75°	244.1	291.1	366.1	416.1	427.9
77.5°	185.3	239.7	316.1	354.4	354.4
80°	132.3	189.7	260.3	277.9	280.8
82.5°	86.8	142.6	192.6	191.1	191.1
85°	50.0	92.6	114.7	111.7	111.7
87.5°	19.1	38.2	41.2	41.2	39.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)