

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: P314032

Luminaire Tested: **24FCZ2-50-UNV-L83050-CP187-W2A-U-4000K**

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: P314032
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4000K 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: 4493.0 lumens
Efficiency: N/A
Efficacy: 102.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

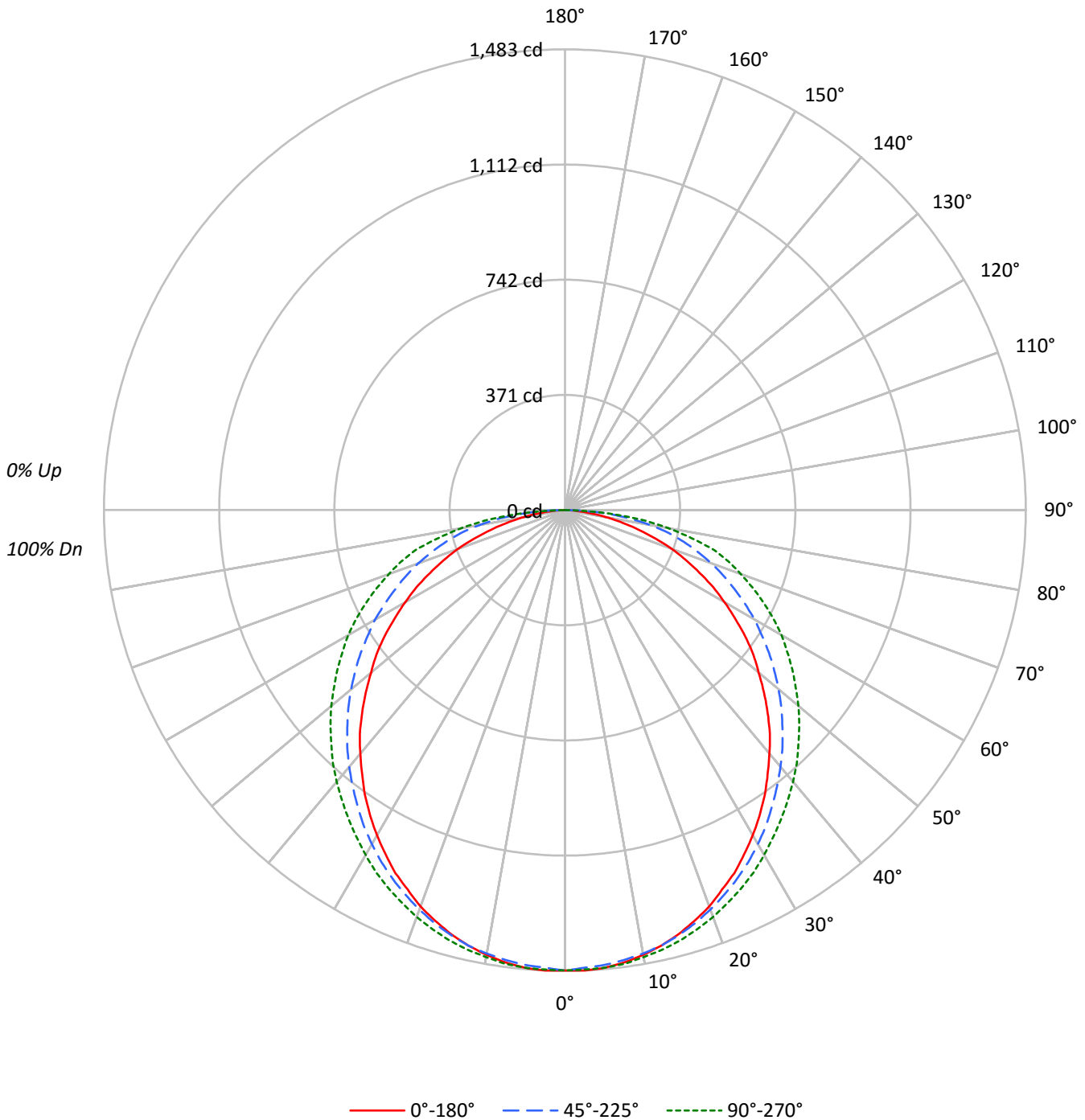
Input Watts (W): 43.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1994	1994	1994
5°	1997	1985	1997
10°	1986	1980	1996
15°	1969	1973	1998
20°	1944	1959	1996
25°	1914	1945	1994
30°	1878	1929	1992
35°	1841	1910	1993
40°	1799	1896	2006
45°	1756	1883	2022
50°	1704	1878	2053
55°	1661	1881	2095
60°	1597	1897	2166
65°	1523	1917	2245
70°	1443	1976	2369
75°	1287	2061	2588
80°	1097	2183	2645
85°	783	2163	2532



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.2	3.1
10°-20°	401.0	8.9
20°-30°	605.6	13.5
30°-40°	729.9	16.2
40°-50°	766.3	17.1
50°-60°	716.9	16.0
60°-70°	592.0	13.2
70°-80°	403.4	9.0
80°-90°	137.6	3.1
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°	1146.8	25.5
0°-40°	1876.8	41.8
0°-60°	3359.9	74.8
0°-90°	4493.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4493.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1482	1482	1482	1482	1482	
5°	1479	1477	1470	1479	1479	140
15°	1413	1415	1416	1431	1434	398
25°	1290	1295	1310	1336	1343	593
35°	1121	1133	1163	1202	1213	701
45°	923	942	990	1044	1063	712
55°	708	736	802	868	893	632
65°	478	519	602	678	705	475
75°	248	304	396	471	498	264
85°	51	100	140	158	164	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1481.8	1481.8	1481.8	1481.8	1481.8
2.5°	1483.2	1481.8	1474.3	1481.8	1480.3
5°	1478.8	1477.3	1469.8	1478.8	1478.8
7.5°	1468.3	1468.3	1460.9	1471.3	1472.8
10°	1453.4	1453.4	1449.0	1460.9	1460.9
12.5°	1435.5	1435.5	1435.5	1447.5	1449.0
15°	1413.2	1414.7	1416.2	1431.1	1434.1
17.5°	1386.3	1389.3	1393.8	1411.7	1414.7
20°	1358.0	1361.0	1368.5	1389.3	1393.8
22.5°	1322.2	1329.7	1340.1	1364.0	1368.5
25°	1289.5	1295.4	1310.3	1335.7	1343.1
27.5°	1249.2	1258.1	1277.5	1304.4	1314.8
30°	1209.0	1217.9	1241.8	1273.1	1282.0
32.5°	1165.7	1179.1	1204.5	1237.3	1247.7
35°	1121.0	1132.9	1162.7	1201.5	1213.4
37.5°	1071.8	1088.2	1121.0	1162.7	1177.7
40°	1024.1	1042.0	1079.3	1124.0	1141.9
42.5°	976.4	994.3	1036.0	1086.7	1104.6
45°	922.7	942.1	989.8	1043.5	1062.9
47.5°	869.1	892.9	945.1	1001.7	1022.6
50°	813.9	840.8	897.4	957.0	980.9
52.5°	764.7	790.1	849.7	913.8	936.2
55°	708.1	736.4	802.0	867.6	892.9
57.5°	649.9	681.2	751.3	822.9	848.2
60°	593.3	627.6	705.1	776.7	805.0
62.5°	538.1	572.4	652.9	727.5	755.8
65°	478.5	518.8	602.2	678.3	705.1
67.5°	421.9	465.1	553.0	627.6	654.4
70°	366.7	408.5	502.4	575.4	602.2
72.5°	307.1	354.8	448.7	524.7	553.0
75°	247.5	304.1	396.5	471.1	497.9
77.5°	192.3	250.4	342.9	404.0	417.4
80°	141.6	201.2	281.7	325.0	341.4
82.5°	90.9	150.6	214.7	246.0	259.4
85°	50.7	99.9	140.1	158.0	164.0
87.5°	20.9	43.2	56.6	64.1	64.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)