

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: P311423

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP187-W2A-U-5500K**

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: P311423
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: 24FCZ2-40-UNV-L82765-S-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5500K 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: 3784.0 lumens
Efficiency: N/A
Efficacy: 112.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

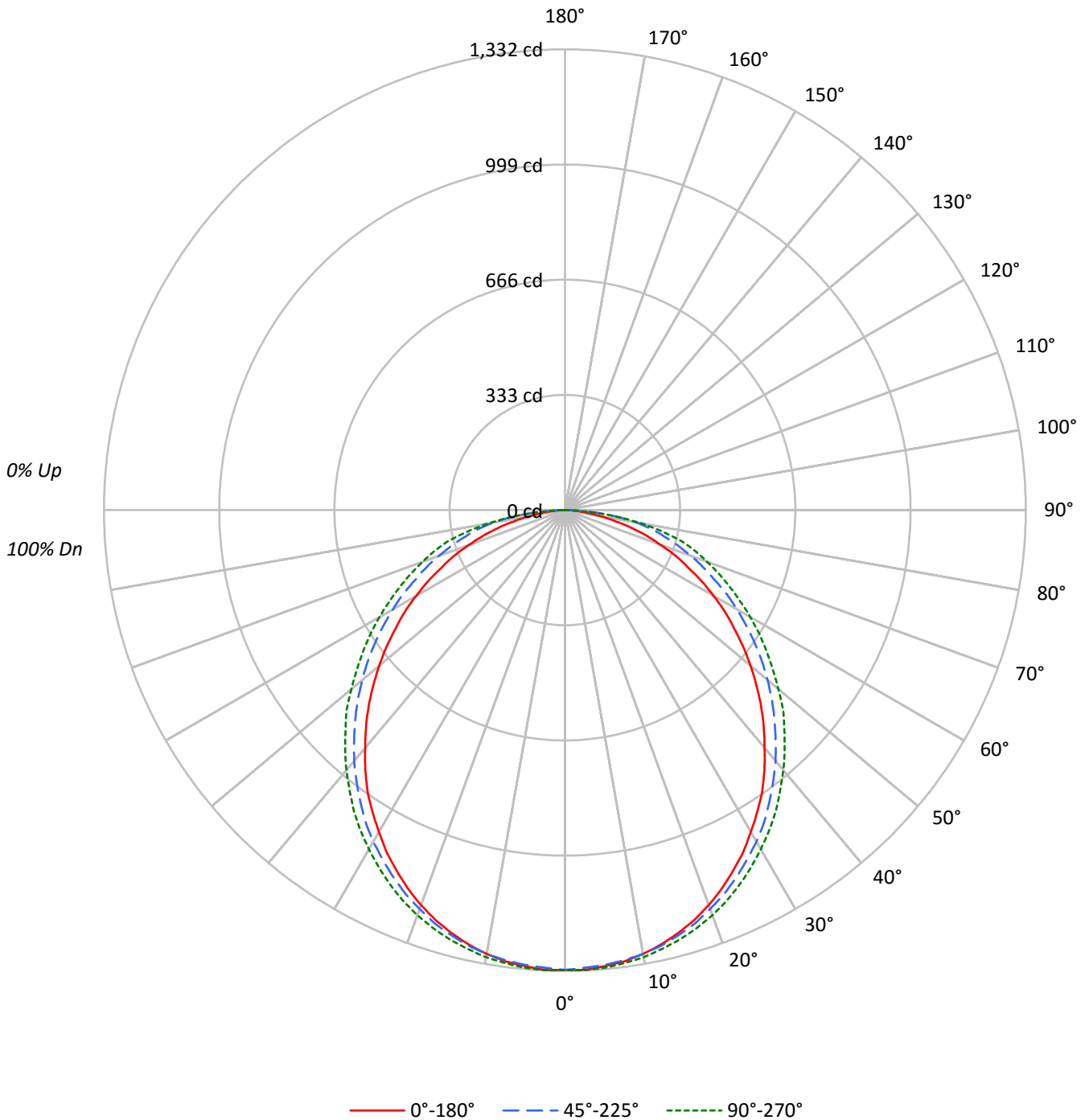
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1789	1789	1789
5°	1787	1782	1794
10°	1780	1780	1793
15°	1763	1771	1790
20°	1740	1757	1785
25°	1708	1740	1774
30°	1669	1720	1759
35°	1633	1692	1745
40°	1577	1663	1725
45°	1525	1631	1706
50°	1467	1600	1686
55°	1401	1571	1669
60°	1336	1546	1666
65°	1251	1519	1676
70°	1159	1527	1721
75°	1037	1556	1818
80°	838	1648	1779
85°	631	1448	1409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.8	3.3
10°-20°	359.6	9.5
20°-30°	540.6	14.3
30°-40°	643.9	17.0
40°-50°	659.0	17.4
50°-60°	593.3	15.7
60°-70°	465.9	12.3
70°-80°	302.4	8.0
80°-90°	93.5	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°	1026.0	27.1
0°-40°	1669.9	44.1
0°-60°	2922.2	77.2
0°-90°	3784.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3784.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1323	1326	1320	1327	1328	126
15°	1266	1269	1272	1282	1285	357
25°	1150	1160	1172	1191	1195	530
35°	994	1006	1030	1055	1062	620
45°	802	821	857	889	897	618
55°	597	624	670	704	712	536
65°	393	423	477	517	526	391
75°	200	238	299	340	350	211
85°	41	76	94	91	91	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1329.3	1329.3	1329.3	1329.3	1329.3
2.5°	1330.5	1330.5	1324.5	1330.5	1331.7
5°	1323.3	1325.7	1319.7	1326.9	1328.1
7.5°	1316.1	1316.1	1312.5	1319.7	1320.9
10°	1302.9	1304.1	1302.9	1311.3	1312.5
12.5°	1286.1	1288.5	1289.7	1298.1	1299.3
15°	1265.6	1269.2	1271.7	1282.5	1284.9
17.5°	1242.8	1246.4	1252.4	1264.4	1266.8
20°	1215.2	1220.0	1227.2	1242.8	1246.4
22.5°	1185.1	1189.9	1201.9	1216.4	1222.4
25°	1150.3	1159.9	1171.9	1191.1	1194.7
27.5°	1115.4	1123.8	1139.4	1159.9	1164.7
30°	1074.5	1087.8	1107.0	1127.4	1132.2
32.5°	1034.9	1048.1	1070.9	1092.6	1098.6
35°	994.0	1006.0	1030.1	1055.3	1062.5
37.5°	947.1	962.8	989.2	1014.4	1021.6
40°	897.8	917.1	947.1	973.6	982.0
42.5°	851.0	871.4	901.5	930.3	939.9
45°	801.7	820.9	857.0	889.4	896.6
47.5°	751.2	772.8	811.3	843.8	855.8
50°	700.7	723.6	764.4	798.1	805.3
52.5°	650.2	674.3	717.6	753.6	757.2
55°	597.4	623.8	669.5	704.3	711.5
57.5°	549.3	572.1	621.4	657.5	665.9
60°	496.4	521.6	574.5	608.2	619.0
62.5°	445.9	472.4	527.7	561.3	570.9
65°	393.0	423.1	477.2	516.8	526.4
67.5°	347.4	376.2	433.9	472.4	482.0
70°	294.5	326.9	388.2	427.9	437.5
72.5°	248.8	282.5	343.8	382.2	396.6
75°	199.5	238.0	299.3	340.1	349.8
77.5°	151.4	195.9	258.4	289.7	289.7
80°	108.2	155.1	212.7	227.2	229.6
82.5°	70.9	116.6	157.5	156.3	156.3
85°	40.9	75.7	93.8	91.3	91.3
87.5°	15.6	31.3	33.7	33.7	32.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)