

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: P311414

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP125-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: P311414
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-CP125-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 3951.0 lumens
Efficiency: N/A
Efficacy: 117.6 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

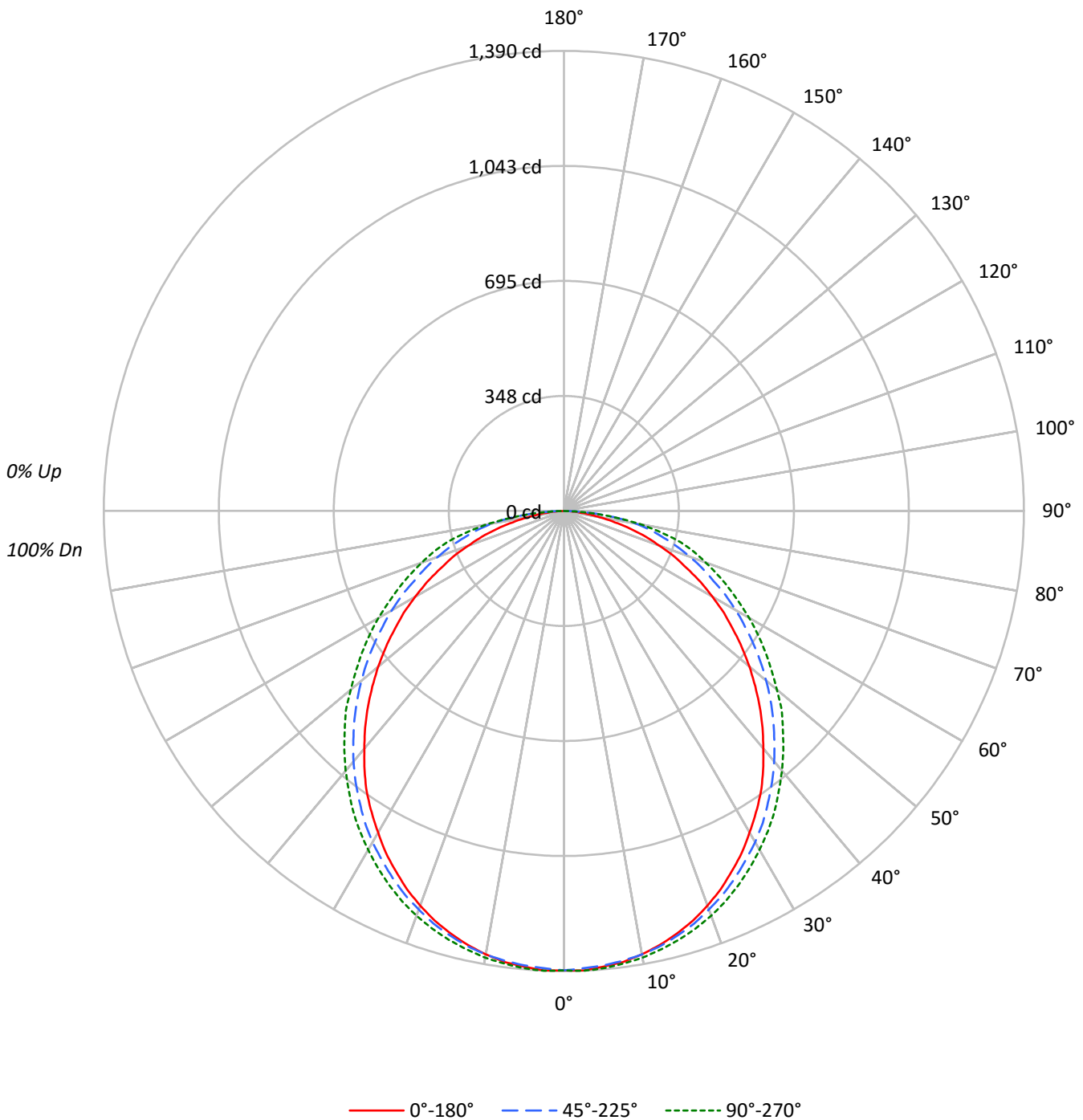
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1868	1868	1868
5°	1866	1861	1873
10°	1859	1859	1872
15°	1841	1850	1869
20°	1817	1835	1863
25°	1783	1817	1852
30°	1743	1796	1837
35°	1705	1767	1822
40°	1647	1737	1801
45°	1593	1703	1781
50°	1532	1671	1760
55°	1463	1640	1743
60°	1395	1614	1739
65°	1307	1586	1750
70°	1210	1595	1797
75°	1083	1625	1899
80°	875	1721	1857
85°	659	1511	1473



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.4	3.3
10°-20°	375.5	9.5
20°-30°	564.4	14.3
30°-40°	672.3	17.0
40°-50°	688.1	17.4
50°-60°	619.5	15.7
60°-70°	486.5	12.3
70°-80°	315.7	8.0
80°-90°	97.6	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°	1071.3	27.1
0°-40°	1743.6	44.1
0°-60°	3051.1	77.2
0°-90°	3951.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3951.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1382	1384	1378	1386	1387	131
15°	1322	1325	1328	1339	1342	373
25°	1201	1211	1224	1244	1248	553
35°	1038	1050	1076	1102	1109	647
45°	837	857	895	929	936	645
55°	624	651	699	735	743	559
65°	410	442	498	540	550	409
75°	208	248	312	355	365	220
85°	43	79	98	95	95	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1388.0	1388.0	1388.0	1388.0	1388.0
2.5°	1389.3	1389.3	1383.0	1389.3	1390.5
5°	1381.7	1384.2	1378.0	1385.5	1386.8
7.5°	1374.2	1374.2	1370.4	1378.0	1379.2
10°	1360.4	1361.7	1360.4	1369.2	1370.4
12.5°	1342.8	1345.3	1346.6	1355.4	1356.6
15°	1321.5	1325.3	1327.8	1339.1	1341.6
17.5°	1297.7	1301.4	1307.7	1320.2	1322.8
20°	1268.8	1273.8	1281.3	1297.7	1301.4
22.5°	1237.4	1242.4	1255.0	1270.0	1276.3
25°	1201.0	1211.1	1223.6	1243.7	1247.5
27.5°	1164.6	1173.4	1189.7	1211.1	1216.1
30°	1122.0	1135.8	1155.8	1177.2	1182.2
32.5°	1080.5	1094.3	1118.2	1140.8	1147.1
35°	1037.9	1050.4	1075.5	1101.9	1109.4
37.5°	988.9	1005.2	1032.9	1059.2	1066.7
40°	937.5	957.6	988.9	1016.5	1025.3
42.5°	888.5	909.9	941.2	971.4	981.4
45°	837.1	857.2	894.8	928.7	936.2
47.5°	784.4	807.0	847.1	881.0	893.5
50°	731.7	755.5	798.2	833.3	840.8
52.5°	678.9	704.0	749.2	786.9	790.6
55°	623.7	651.3	699.0	735.4	743.0
57.5°	573.5	597.4	648.8	686.5	695.3
60°	518.3	544.7	599.9	635.0	646.3
62.5°	465.6	493.2	550.9	586.1	596.1
65°	410.4	441.8	498.2	539.6	549.7
67.5°	362.7	392.8	453.0	493.2	503.2
70°	307.5	341.4	405.4	446.8	456.8
72.5°	259.8	294.9	358.9	399.1	414.1
75°	208.3	248.5	312.5	355.2	365.2
77.5°	158.1	204.6	269.8	302.5	302.5
80°	112.9	161.9	222.1	237.2	239.7
82.5°	74.0	121.7	164.4	163.1	163.1
85°	42.7	79.1	97.9	95.4	95.4
87.5°	16.3	32.6	35.1	35.1	33.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)