

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: P311357

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CA125-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: P311357
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: 24FCZ2-40HE-UNV-L82765-S-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 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: 3892.0 lumens
Efficiency: N/A
Efficacy: 126.4 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

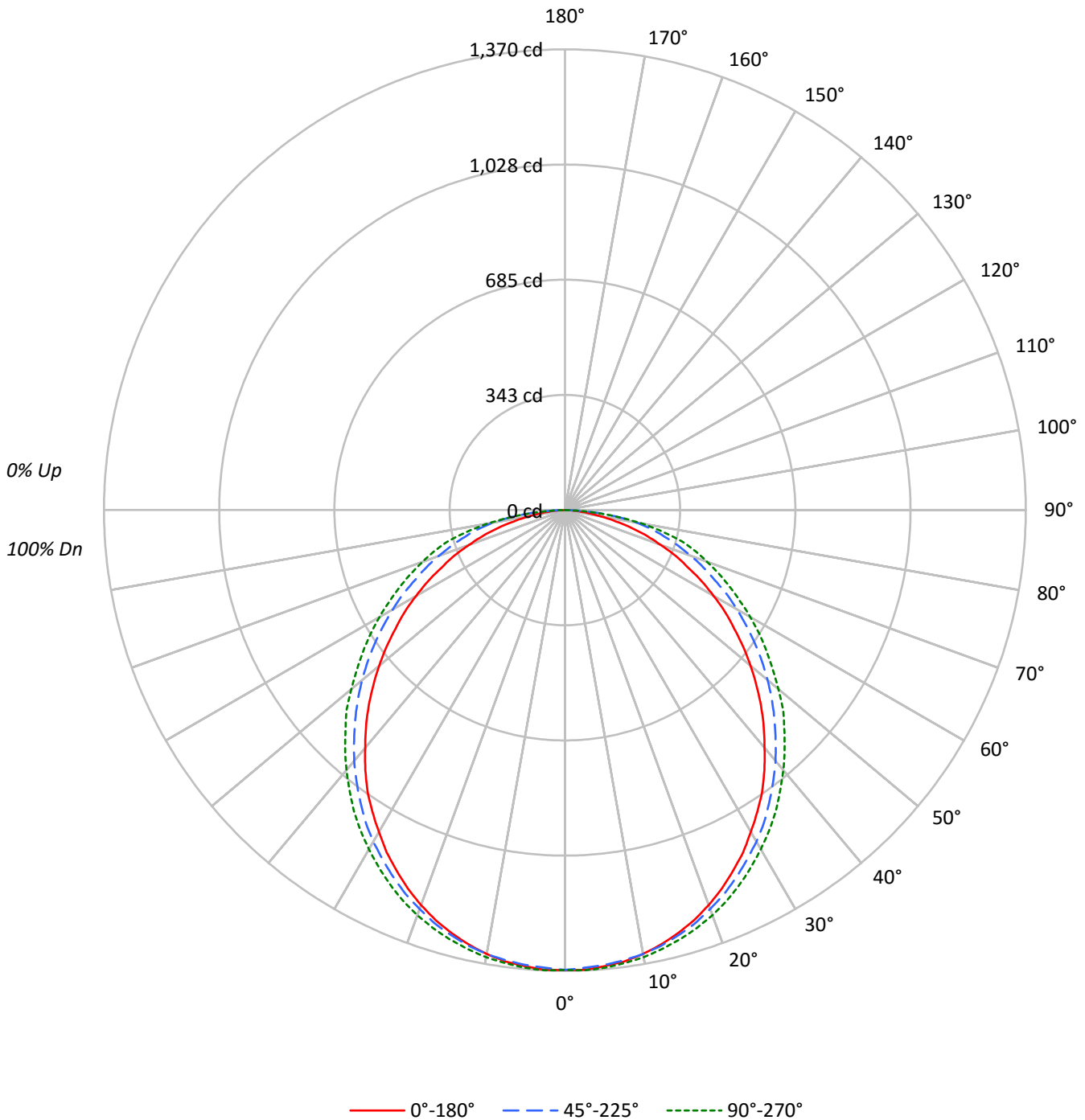
Input Watts (W): 30.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1840	1840	1840
5°	1838	1833	1845
10°	1831	1831	1844
15°	1813	1822	1841
20°	1790	1807	1836
25°	1756	1789	1824
30°	1717	1769	1809
35°	1679	1740	1795
40°	1622	1711	1774
45°	1569	1677	1755
50°	1509	1646	1734
55°	1441	1615	1717
60°	1374	1590	1713
65°	1287	1563	1724
70°	1192	1571	1770
75°	1067	1600	1870
80°	862	1695	1829
85°	648	1488	1451



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	3.3
10°-20°	369.9	9.5
20°-30°	556.0	14.3
30°-40°	662.3	17.0
40°-50°	677.8	17.4
50°-60°	610.2	15.7
60°-70°	479.2	12.3
70°-80°	311.0	8.0
80°-90°	96.2	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°	1055.3	27.1
0°-40°	1717.6	44.1
0°-60°	3005.6	77.2
0°-90°	3892.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3892.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1361	1364	1357	1365	1366	129
15°	1302	1306	1308	1319	1322	367
25°	1183	1193	1205	1225	1229	545
35°	1022	1035	1060	1085	1093	638
45°	825	844	881	915	922	636
55°	614	642	689	724	732	551
65°	404	435	491	532	542	402
75°	205	245	308	350	360	217
85°	42	78	96	94	94	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1367.3	1367.3	1367.3	1367.3	1367.3
2.5°	1368.5	1368.5	1362.3	1368.5	1369.8
5°	1361.1	1363.6	1357.4	1364.8	1366.0
7.5°	1353.7	1353.7	1350.0	1357.4	1358.6
10°	1340.1	1341.3	1340.1	1348.7	1350.0
12.5°	1322.8	1325.3	1326.5	1335.1	1336.4
15°	1301.8	1305.5	1307.9	1319.1	1321.5
17.5°	1278.3	1282.0	1288.2	1300.5	1303.0
20°	1249.8	1254.8	1262.2	1278.3	1282.0
22.5°	1218.9	1223.9	1236.2	1251.1	1257.3
25°	1183.1	1193.0	1205.3	1225.1	1228.8
27.5°	1147.2	1155.9	1172.0	1193.0	1197.9
30°	1105.2	1118.8	1138.6	1159.6	1164.5
32.5°	1064.4	1078.0	1101.5	1123.7	1129.9
35°	1022.4	1034.7	1059.5	1085.4	1092.8
37.5°	974.2	990.2	1017.4	1043.4	1050.8
40°	923.5	943.3	974.2	1001.4	1010.0
42.5°	875.3	896.3	927.2	956.9	966.7
45°	824.6	844.4	881.4	914.8	922.2
47.5°	772.7	794.9	834.5	867.8	880.2
50°	720.7	744.2	786.3	820.9	828.3
52.5°	668.8	693.5	738.0	775.1	778.8
55°	614.4	641.6	688.6	724.4	731.9
57.5°	565.0	588.5	639.1	676.2	684.9
60°	510.6	536.5	590.9	625.5	636.7
62.5°	458.6	485.8	542.7	577.3	587.2
65°	404.3	435.2	490.8	531.6	541.5
67.5°	357.3	386.9	446.3	485.8	495.7
70°	302.9	336.3	399.3	440.1	450.0
72.5°	255.9	290.5	353.6	393.1	408.0
75°	205.2	244.8	307.8	349.9	359.7
77.5°	155.8	201.5	265.8	297.9	297.9
80°	111.3	159.5	218.8	233.6	236.1
82.5°	72.9	119.9	161.9	160.7	160.7
85°	42.0	77.9	96.4	94.0	94.0
87.5°	16.1	32.1	34.6	34.6	33.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)