

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: P311404

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CA125-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: P311404
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-CA125-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC 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: 3990.0 lumens
Efficiency: N/A
Efficacy: 119.1 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

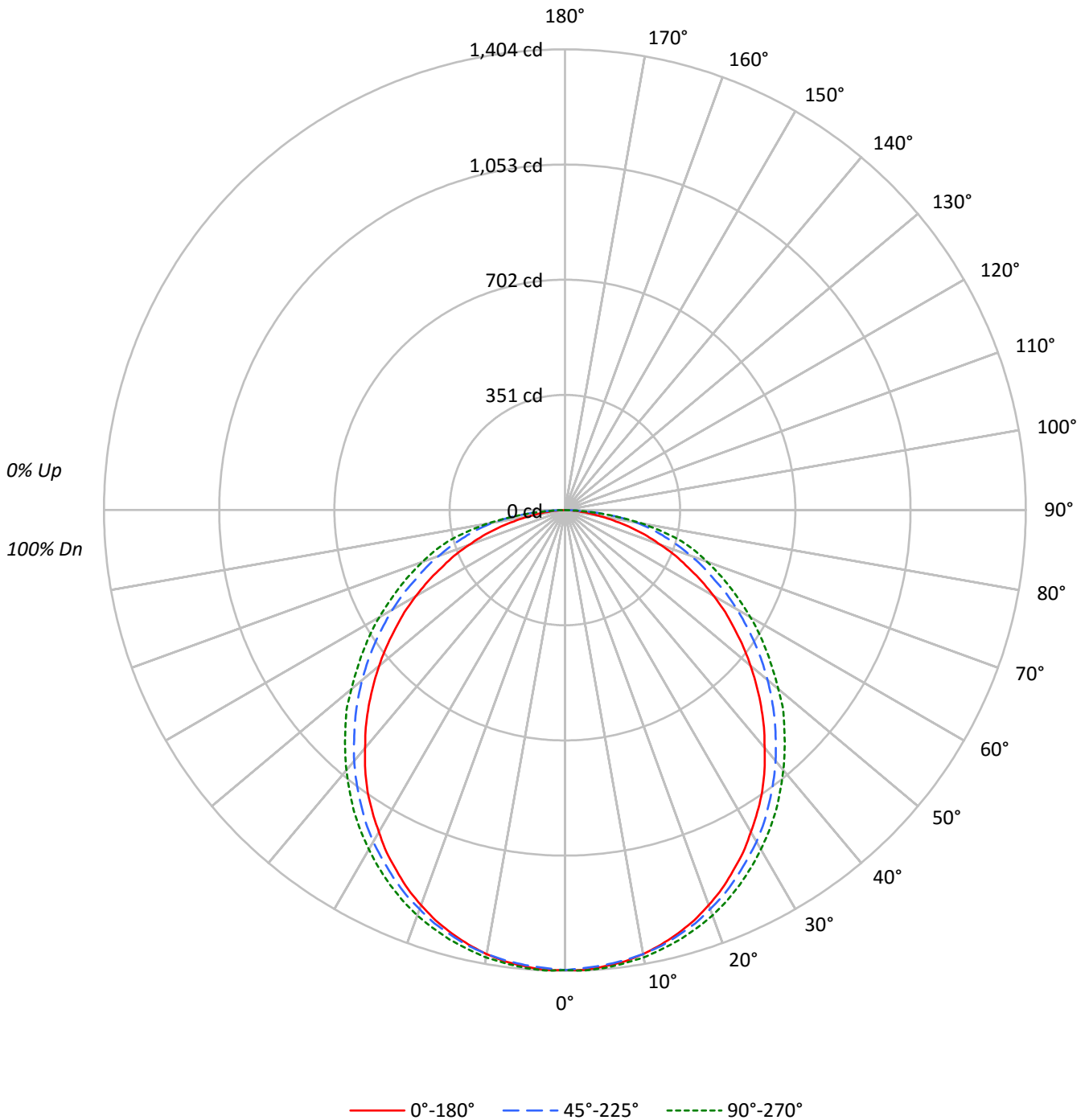
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1886	1886	1886
5°	1885	1880	1891
10°	1877	1877	1891
15°	1859	1868	1887
20°	1835	1853	1882
25°	1801	1834	1870
30°	1760	1813	1855
35°	1722	1784	1840
40°	1663	1754	1819
45°	1608	1719	1799
50°	1547	1687	1777
55°	1478	1656	1760
60°	1408	1630	1756
65°	1319	1602	1767
70°	1221	1611	1815
75°	1094	1641	1917
80°	884	1738	1876
85°	665	1527	1487



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.7	3.3
10°-20°	379.2	9.5
20°-30°	570.0	14.3
30°-40°	678.9	17.0
40°-50°	694.9	17.4
50°-60°	625.6	15.7
60°-70°	491.3	12.3
70°-80°	318.8	8.0
80°-90°	98.6	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°	1081.9	27.1
0°-40°	1760.8	44.1
0°-60°	3081.2	77.2
0°-90°	3990.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3990.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1402	1402	1402	1402	1402	
5°	1395	1398	1392	1399	1400	133
15°	1334	1338	1341	1352	1355	376
25°	1213	1223	1236	1256	1260	559
35°	1048	1061	1086	1113	1120	654
45°	845	866	904	938	946	652
55°	630	658	706	743	750	565
65°	414	446	503	545	555	413
75°	210	251	316	359	369	223
85°	43	80	99	96	96	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1401.7	1401.7	1401.7	1401.7	1401.7
2.5°	1403.0	1403.0	1396.6	1403.0	1404.2
5°	1395.4	1397.9	1391.6	1399.2	1400.4
7.5°	1387.8	1387.8	1384.0	1391.6	1392.8
10°	1373.8	1375.1	1373.8	1382.7	1384.0
12.5°	1356.1	1358.6	1359.9	1368.8	1370.0
15°	1334.5	1338.3	1340.9	1352.3	1354.8
17.5°	1310.5	1314.3	1320.6	1333.3	1335.8
20°	1281.3	1286.4	1294.0	1310.5	1314.3
22.5°	1249.6	1254.7	1267.4	1282.6	1288.9
25°	1212.9	1223.0	1235.7	1256.0	1259.8
27.5°	1176.1	1185.0	1201.5	1223.0	1228.1
30°	1133.0	1147.0	1167.2	1188.8	1193.9
32.5°	1091.2	1105.1	1129.2	1152.0	1158.4
35°	1048.1	1060.8	1086.1	1112.8	1120.4
37.5°	998.7	1015.2	1043.0	1069.7	1077.3
40°	946.7	967.0	998.7	1026.6	1035.4
42.5°	897.3	918.8	950.5	980.9	991.1
45°	845.3	865.6	903.6	937.9	945.5
47.5°	792.1	814.9	855.5	889.7	902.4
50°	738.9	763.0	806.0	841.5	849.1
52.5°	685.6	711.0	756.6	794.6	798.4
55°	629.9	657.8	705.9	742.7	750.3
57.5°	579.2	603.3	655.2	693.3	702.1
60°	523.4	550.0	605.8	641.3	652.7
62.5°	470.2	498.1	556.4	591.9	602.0
65°	414.4	446.1	503.1	545.0	555.1
67.5°	366.3	396.7	457.5	498.1	508.2
70°	310.5	344.7	409.4	451.2	461.3
72.5°	262.3	297.8	362.5	403.0	418.2
75°	210.4	250.9	315.6	358.7	368.8
77.5°	159.7	206.6	272.5	305.4	305.4
80°	114.1	163.5	224.3	239.5	242.1
82.5°	74.8	122.9	166.0	164.8	164.8
85°	43.1	79.8	98.9	96.3	96.3
87.5°	16.5	33.0	35.5	35.5	34.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)