

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: P310841

Luminaire Tested: **24FCZ2-45-UNV-L82765-CP250-W2A-U-2700K**

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: P310841
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: 24FCZ2-45-UNV-L82765-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 2700K 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: 3529.0 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

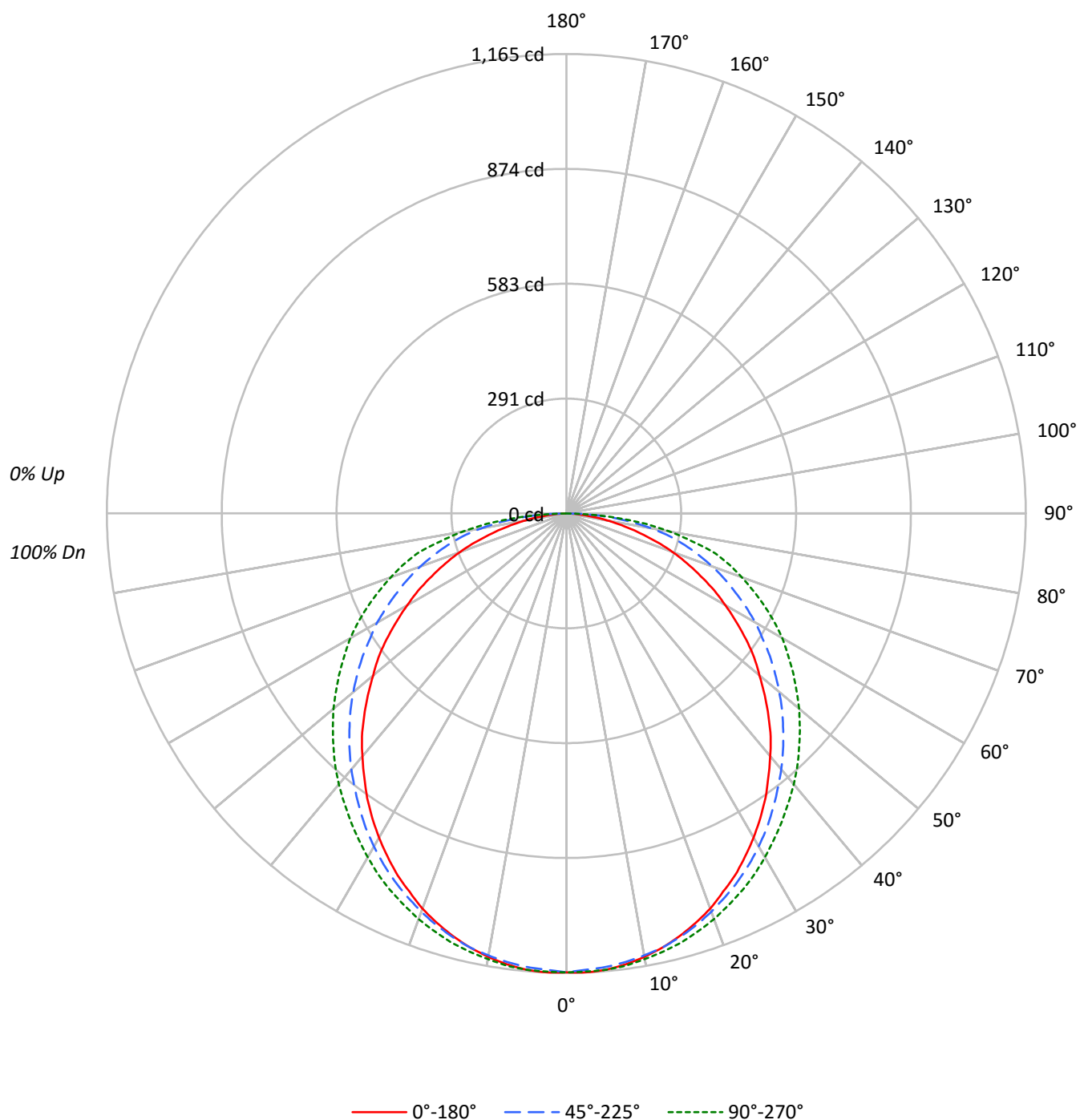
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1566	1566	1566
5°	1569	1559	1569
10°	1560	1555	1568
15°	1546	1549	1569
20°	1527	1539	1568
25°	1504	1528	1566
30°	1475	1515	1564
35°	1446	1500	1566
40°	1413	1489	1575
45°	1379	1479	1588
50°	1338	1476	1613
55°	1305	1478	1645
60°	1254	1490	1702
65°	1196	1506	1763
70°	1133	1552	1861
75°	1011	1619	2033
80°	862	1715	2077
85°	614	1700	1988



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	3.1
10°-20°	314.9	8.9
20°-30°	475.7	13.5
30°-40°	573.3	16.2
40°-50°	601.9	17.1
50°-60°	563.1	16.0
60°-70°	465.0	13.2
70°-80°	316.9	9.0
80°-90°	108.1	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°	900.8	25.5
0°-40°	1474.1	41.8
0°-60°	2639.0	74.8
0°-90°	3529.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3529.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1164	1164	1164	1164	1164	
5°	1162	1160	1154	1162	1162	110
15°	1110	1111	1112	1124	1126	313
25°	1013	1018	1029	1049	1055	466
35°	880	890	913	944	953	550
45°	725	740	778	820	835	559
55°	556	578	630	681	701	496
65°	376	408	473	533	554	373
75°	194	239	311	370	391	207
85°	40	78	110	124	129	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1163.8	1163.8	1163.8	1163.8	1163.8
2.5°	1165.0	1163.8	1158.0	1163.8	1162.7
5°	1161.5	1160.3	1154.5	1161.5	1161.5
7.5°	1153.3	1153.3	1147.4	1155.6	1156.8
10°	1141.6	1141.6	1138.1	1147.4	1147.4
12.5°	1127.5	1127.5	1127.5	1136.9	1138.1
15°	1110.0	1111.1	1112.3	1124.0	1126.4
17.5°	1088.9	1091.2	1094.8	1108.8	1111.1
20°	1066.7	1069.0	1074.8	1091.2	1094.8
22.5°	1038.6	1044.4	1052.6	1071.3	1074.8
25°	1012.8	1017.5	1029.2	1049.1	1054.9
27.5°	981.2	988.2	1003.4	1024.5	1032.7
30°	949.6	956.6	975.3	999.9	1006.9
32.5°	915.6	926.1	946.1	971.8	980.0
35°	880.5	889.9	913.3	943.7	953.1
37.5°	841.8	854.7	880.5	913.3	925.0
40°	804.4	818.4	847.7	882.8	896.9
42.5°	766.9	781.0	813.7	853.6	867.6
45°	724.8	740.0	777.5	819.6	834.8
47.5°	682.6	701.3	742.3	786.8	803.2
50°	639.3	660.4	704.9	751.7	770.4
52.5°	600.7	620.6	667.4	717.7	735.3
55°	556.2	578.4	629.9	681.4	701.3
57.5°	510.5	535.1	590.1	646.3	666.2
60°	466.0	492.9	553.8	610.0	632.3
62.5°	422.7	449.6	512.8	571.4	593.6
65°	375.8	407.5	473.0	532.7	553.8
67.5°	331.4	365.3	434.4	492.9	514.0
70°	288.0	320.8	394.6	452.0	473.0
72.5°	241.2	278.7	352.4	412.1	434.4
75°	194.4	238.9	311.4	370.0	391.1
77.5°	151.0	196.7	269.3	317.3	327.8
80°	111.2	158.1	221.3	255.2	268.1
82.5°	71.4	118.3	168.6	193.2	203.7
85°	39.8	78.4	110.1	124.1	128.8
87.5°	16.4	34.0	44.5	50.3	50.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)