

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: P310807

Luminaire Tested: **24FCZ2-45-UNV-L82765-CA08-W2A-U-3500K**

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: P310807
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-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3500K 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: 4047.0 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

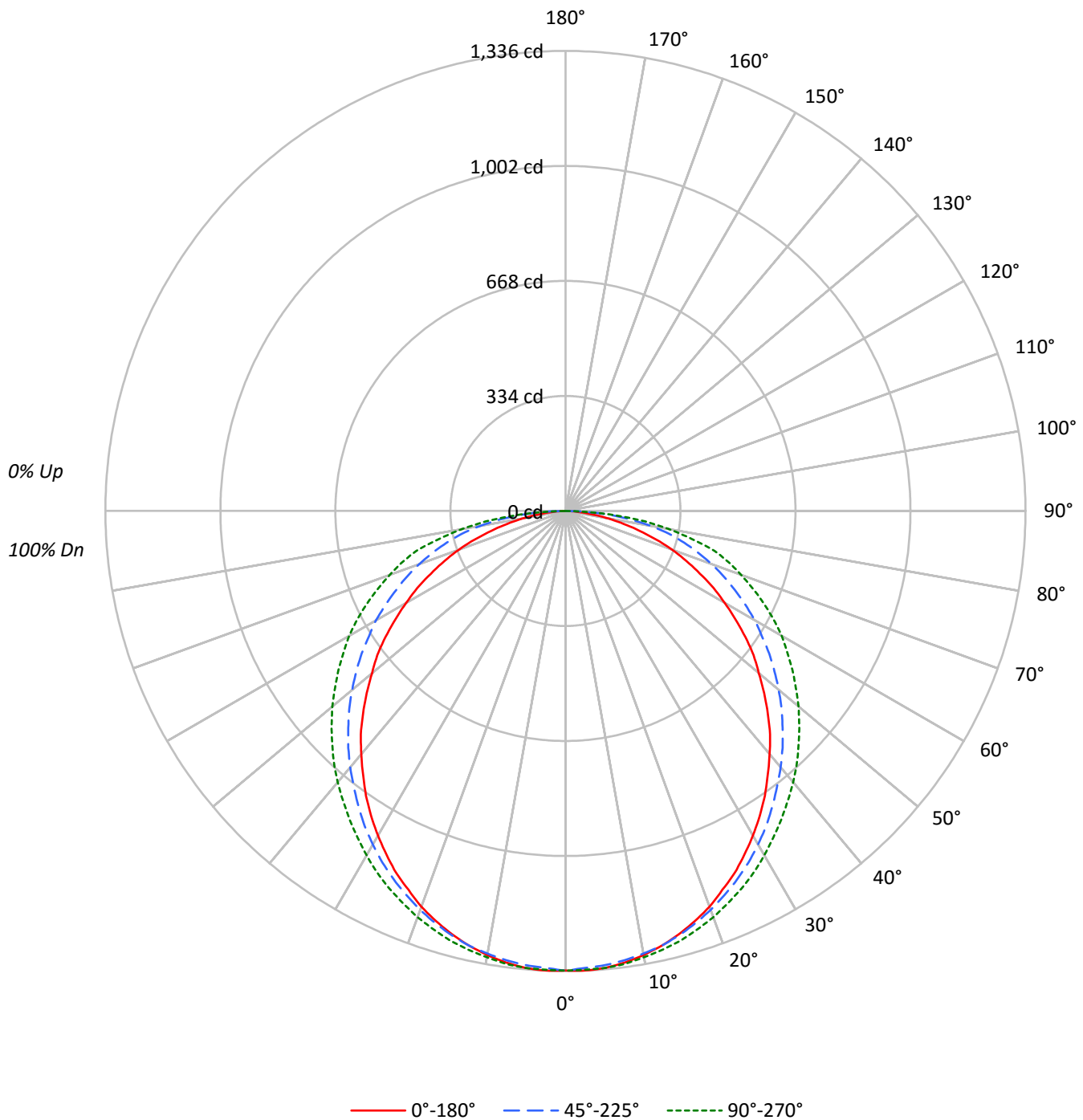
Input Watts (W): 37.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1796	1796	1796
5°	1799	1788	1799
10°	1789	1783	1798
15°	1773	1777	1799
20°	1751	1765	1798
25°	1724	1752	1796
30°	1692	1738	1794
35°	1658	1720	1795
40°	1620	1707	1806
45°	1581	1697	1822
50°	1535	1692	1849
55°	1496	1695	1887
60°	1438	1709	1951
65°	1372	1727	2022
70°	1299	1780	2134
75°	1159	1857	2332
80°	989	1967	2383
85°	706	1948	2280



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.3	3.1
10°-20°	361.2	8.9
20°-30°	545.5	13.5
30°-40°	657.5	16.2
40°-50°	690.2	17.1
50°-60°	645.7	16.0
60°-70°	533.3	13.2
70°-80°	363.4	9.0
80°-90°	123.9	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°	1033.0	25.5
0°-40°	1690.5	41.8
0°-60°	3026.4	74.8
0°-90°	4047.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4047.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1335	1335	1335	1335	1335	
5°	1332	1331	1324	1332	1332	126
15°	1273	1274	1276	1289	1292	359
25°	1162	1167	1180	1203	1210	534
35°	1010	1020	1047	1082	1093	631
45°	831	849	892	940	957	641
55°	638	663	722	782	804	569
65°	431	467	542	611	635	428
75°	223	274	357	424	448	238
85°	46	90	126	142	148	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1334.7	1334.7	1334.7	1334.7	1334.7
2.5°	1336.0	1334.7	1328.0	1334.7	1333.3
5°	1332.0	1330.6	1323.9	1332.0	1332.0
7.5°	1322.6	1322.6	1315.9	1325.3	1326.6
10°	1309.2	1309.2	1305.1	1315.9	1315.9
12.5°	1293.0	1293.0	1293.0	1303.8	1305.1
15°	1272.9	1274.2	1275.6	1289.0	1291.7
17.5°	1248.7	1251.4	1255.4	1271.6	1274.2
20°	1223.2	1225.9	1232.6	1251.4	1255.4
22.5°	1191.0	1197.7	1207.1	1228.6	1232.6
25°	1161.5	1166.8	1180.3	1203.1	1209.8
27.5°	1125.2	1133.3	1150.7	1174.9	1184.3
30°	1088.9	1097.0	1118.5	1146.7	1154.7
32.5°	1050.0	1062.1	1084.9	1114.5	1123.9
35°	1009.7	1020.5	1047.3	1082.2	1093.0
37.5°	965.4	980.2	1009.7	1047.3	1060.8
40°	922.4	938.6	972.1	1012.4	1028.5
42.5°	879.5	895.6	933.2	978.8	995.0
45°	831.1	848.6	891.6	939.9	957.4
47.5°	782.8	804.3	851.3	902.3	921.1
50°	733.1	757.3	808.3	862.0	883.5
52.5°	688.8	711.6	765.4	823.1	843.2
55°	637.8	663.3	722.4	781.5	804.3
57.5°	585.4	613.6	676.7	741.2	764.0
60°	534.4	565.3	635.1	699.6	725.1
62.5°	484.7	515.6	588.1	655.2	680.8
65°	431.0	467.3	542.5	610.9	635.1
67.5°	380.0	418.9	498.1	565.3	589.5
70°	330.3	367.9	452.5	518.3	542.5
72.5°	276.6	319.6	404.2	472.6	498.1
75°	222.9	273.9	357.2	424.3	448.5
77.5°	173.2	225.6	308.8	363.9	376.0
80°	127.6	181.3	253.8	292.7	307.5
82.5°	81.9	135.6	193.4	221.5	233.6
85°	45.7	90.0	126.2	142.3	147.7
87.5°	18.8	38.9	51.0	57.7	57.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)