

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: P310805

Luminaire Tested: **24FCZ2-45-UNV-L82765-CA08-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: P310805
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-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 3802.0 lumens
Efficiency: N/A
Efficacy: 101.1 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

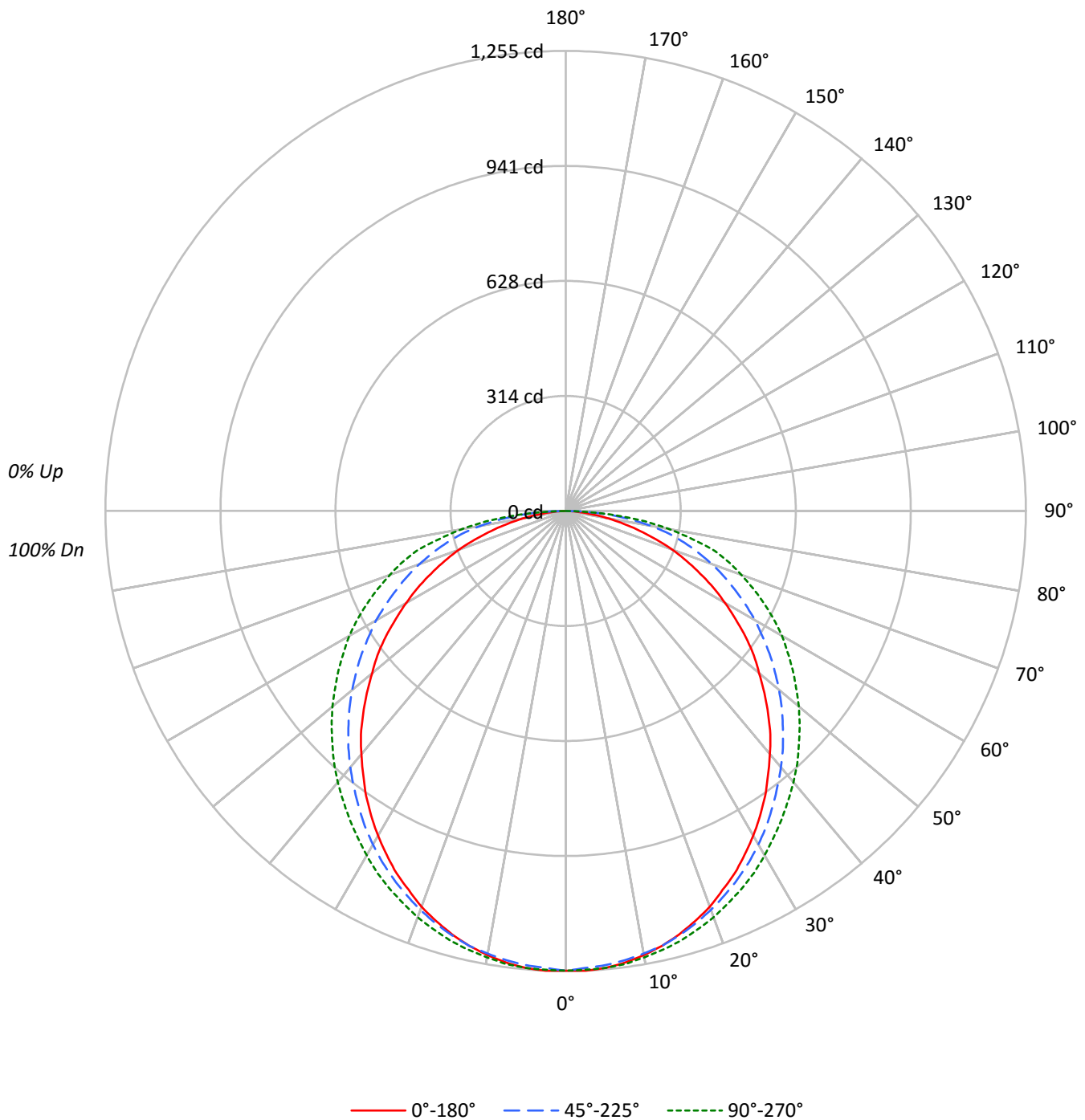
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1687	1687	1687
5°	1690	1680	1690
10°	1680	1675	1689
15°	1666	1669	1690
20°	1645	1658	1689
25°	1620	1646	1687
30°	1589	1633	1685
35°	1558	1616	1687
40°	1522	1604	1697
45°	1486	1594	1711
50°	1442	1590	1737
55°	1406	1592	1772
60°	1351	1606	1833
65°	1289	1622	1900
70°	1221	1672	2005
75°	1089	1744	2190
80°	928	1847	2239
85°	662	1831	2143



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.7	3.1
10°-20°	339.3	8.9
20°-30°	512.5	13.5
30°-40°	617.7	16.2
40°-50°	648.4	17.1
50°-60°	606.7	16.0
60°-70°	501.0	13.2
70°-80°	341.4	9.0
80°-90°	116.4	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°	970.5	25.5
0°-40°	1588.1	41.8
0°-60°	2843.2	74.8
0°-90°	3802.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3802.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1254	1254	1254	1254	1254	
5°	1251	1250	1244	1251	1251	119
15°	1196	1197	1198	1211	1214	337
25°	1091	1096	1109	1130	1137	502
35°	949	959	984	1017	1027	593
45°	781	797	838	883	899	602
55°	599	623	679	734	756	535
65°	405	439	510	574	597	402
75°	209	257	336	399	421	223
85°	43	84	119	134	139	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1253.9	1253.9	1253.9	1253.9	1253.9
2.5°	1255.1	1253.9	1247.6	1253.9	1252.6
5°	1251.3	1250.1	1243.8	1251.3	1251.3
7.5°	1242.5	1242.5	1236.2	1245.0	1246.3
10°	1229.9	1229.9	1226.1	1236.2	1236.2
12.5°	1214.8	1214.8	1214.8	1224.9	1226.1
15°	1195.8	1197.1	1198.4	1211.0	1213.5
17.5°	1173.1	1175.7	1179.4	1194.6	1197.1
20°	1149.2	1151.7	1158.0	1175.7	1179.4
22.5°	1118.9	1125.2	1134.0	1154.2	1158.0
25°	1091.1	1096.2	1108.8	1130.2	1136.6
27.5°	1057.1	1064.7	1081.0	1103.8	1112.6
30°	1023.0	1030.6	1050.8	1077.3	1084.8
32.5°	986.4	997.8	1019.2	1047.0	1055.8
35°	948.6	958.7	983.9	1016.7	1026.8
37.5°	907.0	920.8	948.6	983.9	996.5
40°	866.6	881.7	913.3	951.1	966.3
42.5°	826.2	841.4	876.7	919.6	934.7
45°	780.8	797.2	837.6	883.0	899.4
47.5°	735.4	755.6	799.7	847.7	865.3
50°	688.7	711.4	759.4	809.8	830.0
52.5°	647.1	668.6	719.0	773.3	792.2
55°	599.2	623.1	678.7	734.2	755.6
57.5°	550.0	576.5	635.8	696.3	717.8
60°	502.1	531.1	596.7	657.2	681.2
62.5°	455.4	484.4	552.5	615.6	639.5
65°	404.9	439.0	509.6	574.0	596.7
67.5°	357.0	393.6	468.0	531.1	553.8
70°	310.3	345.6	425.1	486.9	509.6
72.5°	259.9	300.2	379.7	444.0	468.0
75°	209.4	257.3	335.5	398.6	421.3
77.5°	162.7	211.9	290.1	341.8	353.2
80°	119.8	170.3	238.4	275.0	288.9
82.5°	76.9	127.4	181.6	208.1	219.5
85°	42.9	84.5	118.6	133.7	138.8
87.5°	17.7	36.6	47.9	54.2	54.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)