

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: P310812

Luminaire Tested: **24FCZ2-45-UNV-L82765-CA08-W2A-U-5700K**

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: P310812
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-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5700K 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: 4320.0 lumens
Efficiency: N/A
Efficacy: 111.6 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

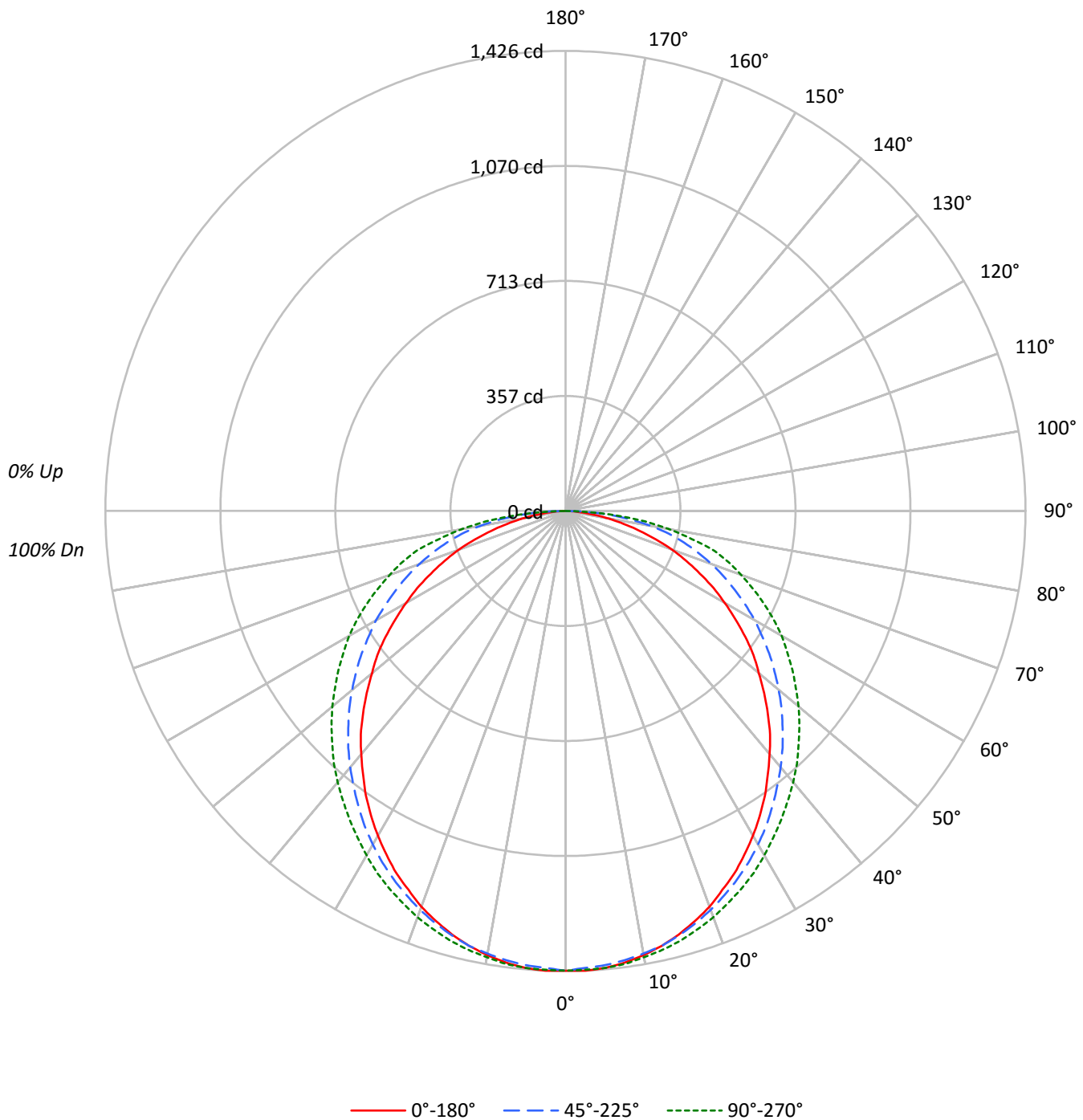
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1917	1917	1917
5°	1920	1909	1920
10°	1909	1903	1919
15°	1893	1897	1921
20°	1870	1884	1919
25°	1841	1870	1917
30°	1806	1855	1915
35°	1770	1836	1916
40°	1730	1823	1928
45°	1688	1811	1944
50°	1638	1806	1974
55°	1597	1809	2014
60°	1535	1824	2083
65°	1465	1844	2159
70°	1387	1900	2278
75°	1237	1982	2489
80°	1055	2099	2543
85°	752	2079	2435



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.8	3.1
10°-20°	385.5	8.9
20°-30°	582.3	13.5
30°-40°	701.8	16.2
40°-50°	736.8	17.1
50°-60°	689.3	16.0
60°-70°	569.3	13.2
70°-80°	387.9	9.0
80°-90°	132.3	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°	1102.7	25.5
0°-40°	1804.5	41.8
0°-60°	3230.6	74.8
0°-90°	4320.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4320.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1425	1425	1425	1425	1425	
5°	1422	1420	1413	1422	1422	135
15°	1359	1360	1362	1376	1379	383
25°	1240	1246	1260	1284	1291	570
35°	1078	1089	1118	1155	1167	674
45°	887	906	952	1003	1022	684
55°	681	708	771	834	858	608
65°	460	499	579	652	678	456
75°	238	292	381	453	479	254
85°	49	96	135	152	158	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1424.7	1424.7	1424.7	1424.7	1424.7
2.5°	1426.1	1424.7	1417.5	1424.7	1423.3
5°	1421.8	1420.4	1413.2	1421.8	1421.8
7.5°	1411.8	1411.8	1404.6	1414.7	1416.1
10°	1397.5	1397.5	1393.2	1404.6	1404.6
12.5°	1380.3	1380.3	1380.3	1391.7	1393.2
15°	1358.8	1360.2	1361.6	1376.0	1378.8
17.5°	1333.0	1335.8	1340.1	1357.3	1360.2
20°	1305.7	1308.6	1315.8	1335.8	1340.1
22.5°	1271.3	1278.5	1288.5	1311.5	1315.8
25°	1239.8	1245.5	1259.9	1284.2	1291.4
27.5°	1201.1	1209.7	1228.3	1254.1	1264.2
30°	1162.4	1171.0	1193.9	1224.0	1232.6
32.5°	1120.8	1133.7	1158.1	1189.6	1199.7
35°	1077.8	1089.3	1118.0	1155.2	1166.7
37.5°	1030.5	1046.3	1077.8	1118.0	1132.3
40°	984.7	1001.9	1037.7	1080.7	1097.9
42.5°	938.8	956.0	996.1	1044.9	1062.1
45°	887.2	905.8	951.7	1003.3	1021.9
47.5°	835.6	858.5	908.7	963.2	983.2
50°	782.6	808.4	862.8	920.2	943.1
52.5°	735.3	759.6	817.0	878.6	900.1
55°	680.8	708.0	771.1	834.2	858.5
57.5°	624.9	655.0	722.4	791.2	815.5
60°	570.5	603.4	678.0	746.7	774.0
62.5°	517.4	550.4	627.8	699.4	726.7
65°	460.1	498.8	579.1	652.2	678.0
67.5°	405.6	447.2	531.8	603.4	629.2
70°	352.6	392.7	483.0	553.3	579.1
72.5°	295.3	341.1	431.4	504.5	531.8
75°	237.9	292.4	381.3	452.9	478.7
77.5°	184.9	240.8	329.7	388.4	401.3
80°	136.2	193.5	270.9	312.5	328.2
82.5°	87.4	144.8	206.4	236.5	249.4
85°	48.7	96.0	134.7	151.9	157.7
87.5°	20.1	41.6	54.5	61.6	61.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)