

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: P310835

Luminaire Tested: **24FCZ2-45-UNV-L82765-CP187-W2A-U-4000K**

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: P310835
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-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4000K 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: 3870.0 lumens
Efficiency: N/A
Efficacy: 101.8 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

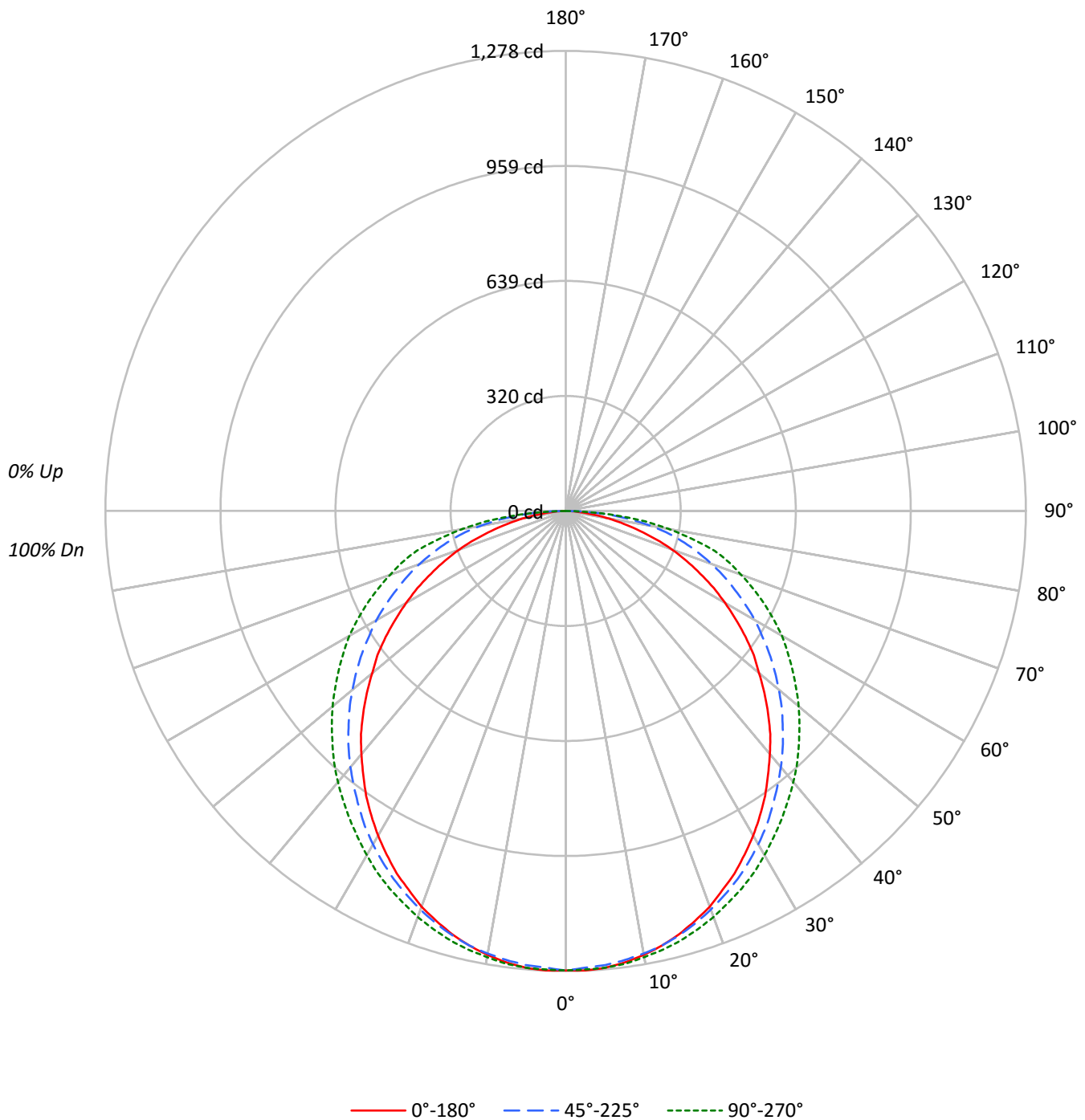
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1717	1717	1717
5°	1720	1710	1720
10°	1710	1705	1719
15°	1696	1699	1721
20°	1675	1688	1719
25°	1649	1676	1718
30°	1618	1662	1716
35°	1586	1645	1717
40°	1549	1633	1727
45°	1512	1622	1742
50°	1468	1618	1769
55°	1431	1620	1804
60°	1375	1634	1866
65°	1312	1651	1933
70°	1243	1702	2041
75°	1108	1775	2230
80°	945	1881	2278
85°	675	1863	2180



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.8	3.1
10°-20°	345.4	8.9
20°-30°	521.7	13.5
30°-40°	628.7	16.2
40°-50°	660.0	17.1
50°-60°	617.5	16.0
60°-70°	510.0	13.2
70°-80°	347.5	9.0
80°-90°	118.5	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°	987.8	25.5
0°-40°	1616.5	41.8
0°-60°	2894.1	74.8
0°-90°	3870.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3870.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1276	1276	1276	1276	1276	
5°	1274	1272	1266	1274	1274	121
15°	1217	1218	1220	1233	1235	343
25°	1111	1116	1129	1150	1157	511
35°	966	976	1002	1035	1045	603
45°	795	812	853	899	916	613
55°	610	634	691	747	769	544
65°	412	447	519	584	607	409
75°	213	262	342	406	429	227
85°	44	86	121	136	141	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1276.3	1276.3	1276.3	1276.3	1276.3
2.5°	1277.6	1276.3	1269.9	1276.3	1275.0
5°	1273.7	1272.4	1266.0	1273.7	1273.7
7.5°	1264.7	1264.7	1258.3	1267.3	1268.6
10°	1251.9	1251.9	1248.0	1258.3	1258.3
12.5°	1236.5	1236.5	1236.5	1246.8	1248.0
15°	1217.2	1218.5	1219.8	1232.6	1235.2
17.5°	1194.1	1196.7	1200.5	1215.9	1218.5
20°	1169.7	1172.3	1178.7	1196.7	1200.5
22.5°	1138.9	1145.3	1154.3	1174.9	1178.7
25°	1110.7	1115.8	1128.6	1150.5	1156.9
27.5°	1076.0	1083.7	1100.4	1123.5	1132.5
30°	1041.3	1049.0	1069.6	1096.5	1104.2
32.5°	1004.1	1015.6	1037.5	1065.7	1074.7
35°	965.6	975.8	1001.5	1034.9	1045.2
37.5°	923.2	937.3	965.6	1001.5	1014.4
40°	882.1	897.5	929.6	968.1	983.5
42.5°	841.0	856.4	892.4	936.0	951.4
45°	794.8	811.5	852.6	898.8	915.5
47.5°	748.6	769.1	814.1	862.8	880.8
50°	701.1	724.2	773.0	824.3	844.9
52.5°	658.7	680.5	731.9	787.1	806.3
55°	609.9	634.3	690.8	747.3	769.1
57.5°	559.8	586.8	647.1	708.8	730.6
60°	511.0	540.6	607.3	669.0	693.4
62.5°	463.5	493.1	562.4	626.6	651.0
65°	412.2	446.8	518.7	584.2	607.3
67.5°	363.4	400.6	476.4	540.6	563.7
70°	315.9	351.8	432.7	495.6	518.7
72.5°	264.5	305.6	386.5	452.0	476.4
75°	213.1	261.9	341.5	405.7	428.9
77.5°	165.6	215.7	295.3	348.0	359.5
80°	122.0	173.3	242.7	279.9	294.0
82.5°	78.3	129.7	184.9	211.9	223.4
85°	43.7	86.0	120.7	136.1	141.2
87.5°	18.0	37.2	48.8	55.2	55.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)