

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: P313984

Luminaire Tested: **24FCZ2-45-UNV-L83050-CP187-W2A-U-5000K**

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: P313984
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-L83050-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 4110.0 lumens
Efficiency: N/A
Efficacy: 104.3 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

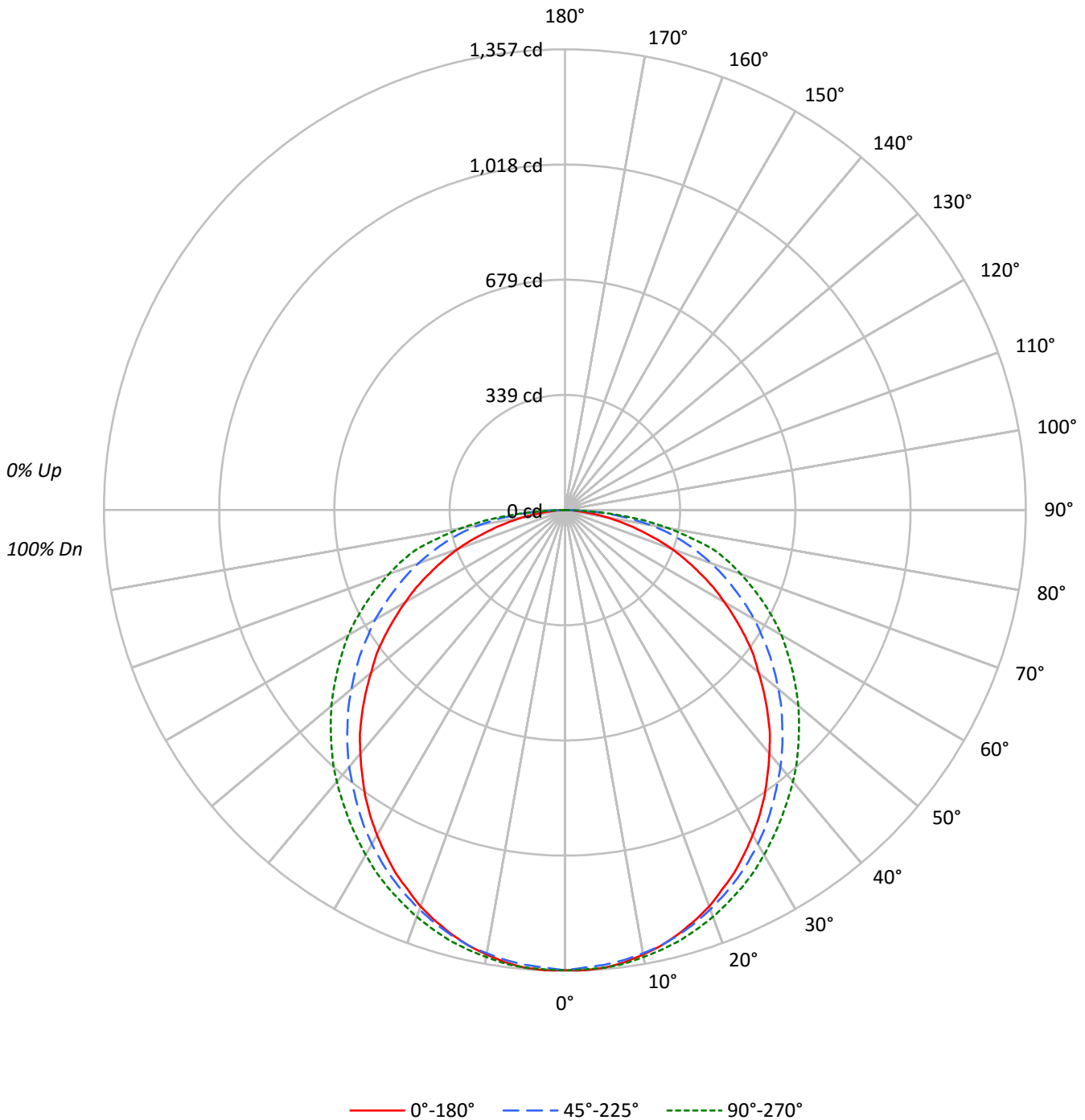
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	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	102	102	102	100				
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82				
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67				
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56				
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47				
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41				
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28				
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1824	1824	1824
5°	1827	1816	1827
10°	1816	1811	1826
15°	1801	1804	1827
20°	1779	1792	1826
25°	1751	1779	1824
30°	1718	1765	1822
35°	1684	1747	1823
40°	1645	1734	1835
45°	1606	1723	1850
50°	1558	1718	1878
55°	1519	1721	1916
60°	1460	1736	1982
65°	1394	1754	2053
70°	1320	1808	2167
75°	1177	1886	2368
80°	1003	1997	2420
85°	716	1979	2316



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.3	3.1
10°-20°	366.8	8.9
20°-30°	554.0	13.5
30°-40°	667.7	16.2
40°-50°	701.0	17.1
50°-60°	655.8	16.0
60°-70°	541.6	13.2
70°-80°	369.0	9.0
80°-90°	125.9	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°	1049.1	25.5
0°-40°	1716.8	41.8
0°-60°	3073.5	74.8
0°-90°	4110.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4110.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1355	1355	1355	1355	1355	
5°	1353	1351	1344	1353	1353	128
15°	1293	1294	1295	1309	1312	364
25°	1180	1185	1199	1222	1229	543
35°	1025	1036	1064	1099	1110	641
45°	844	862	905	954	972	651
55°	648	674	734	794	817	578
65°	438	474	551	620	645	434
75°	226	278	363	431	456	241
85°	46	91	128	144	150	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1355.4	1355.4	1355.4	1355.4	1355.4
2.5°	1356.8	1355.4	1348.6	1355.4	1354.1
5°	1352.7	1351.4	1344.5	1352.7	1352.7
7.5°	1343.2	1343.2	1336.4	1345.9	1347.3
10°	1329.5	1329.5	1325.4	1336.4	1336.4
12.5°	1313.2	1313.2	1313.2	1324.1	1325.4
15°	1292.7	1294.1	1295.4	1309.1	1311.8
17.5°	1268.2	1270.9	1275.0	1291.4	1294.1
20°	1242.3	1245.0	1251.8	1270.9	1275.0
22.5°	1209.5	1216.4	1225.9	1247.7	1251.8
25°	1179.5	1185.0	1198.6	1221.8	1228.6
27.5°	1142.7	1150.9	1168.6	1193.2	1202.7
30°	1105.9	1114.1	1135.9	1164.5	1172.7
32.5°	1066.4	1078.6	1101.8	1131.8	1141.4
35°	1025.4	1036.4	1063.6	1099.1	1110.0
37.5°	980.4	995.4	1025.4	1063.6	1077.3
40°	936.8	953.2	987.3	1028.2	1044.5
42.5°	893.2	909.5	947.7	994.1	1010.4
45°	844.1	861.8	905.4	954.5	972.3
47.5°	795.0	816.8	864.5	916.4	935.4
50°	744.5	769.1	820.9	875.4	897.3
52.5°	699.5	722.7	777.3	835.9	856.4
55°	647.7	673.6	733.6	793.6	816.8
57.5°	594.5	623.2	687.3	752.7	775.9
60°	542.7	574.1	645.0	710.4	736.4
62.5°	492.3	523.6	597.3	665.4	691.4
65°	437.7	474.5	550.9	620.4	645.0
67.5°	385.9	425.5	505.9	574.1	598.6
70°	335.5	373.6	459.5	526.4	550.9
72.5°	280.9	324.5	410.5	480.0	505.9
75°	226.4	278.2	362.7	430.9	455.5
77.5°	175.9	229.1	313.6	369.5	381.8
80°	129.5	184.1	257.7	297.3	312.3
82.5°	83.2	137.7	196.4	225.0	237.3
85°	46.4	91.4	128.2	144.5	150.0
87.5°	19.1	39.5	51.8	58.6	58.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)