

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: P310923

Luminaire Tested: **24FCZ2-50-UNV-L82765-CP187-W2A-U-3000K**

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: P310923
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: 24FCZ2-50-UNV-L82765-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3000K 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: 4040.0 lumens
Efficiency: N/A
Efficacy: 95.3 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

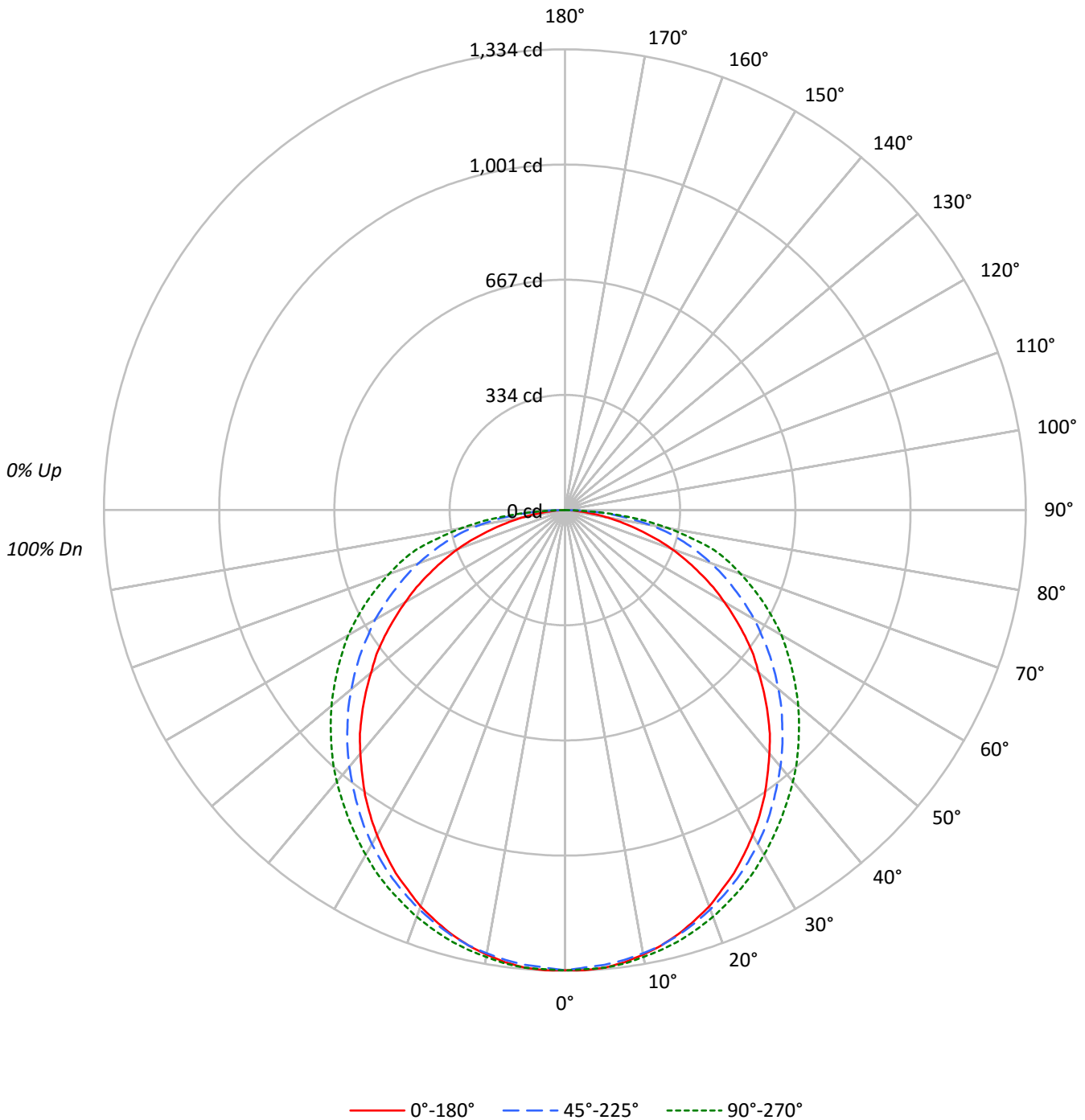
Input Watts (W): 42.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1793	1793	1793
5°	1796	1785	1796
10°	1786	1780	1795
15°	1770	1774	1796
20°	1748	1762	1795
25°	1721	1749	1793
30°	1689	1735	1791
35°	1656	1717	1792
40°	1617	1704	1803
45°	1579	1694	1819
50°	1532	1689	1846
55°	1494	1692	1883
60°	1436	1706	1948
65°	1370	1724	2018
70°	1297	1777	2130
75°	1157	1853	2327
80°	986	1963	2379
85°	704	1945	2276



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	3.1
10°-20°	360.5	8.9
20°-30°	544.6	13.5
30°-40°	656.3	16.2
40°-50°	689.0	17.1
50°-60°	644.6	16.0
60°-70°	532.3	13.2
70°-80°	362.7	9.0
80°-90°	123.7	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°	1031.2	25.5
0°-40°	1687.5	41.8
0°-60°	3021.2	74.8
0°-90°	4040.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4040.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1332	1332	1332	1332	1332	
5°	1330	1328	1322	1330	1330	126
15°	1271	1272	1273	1287	1290	358
25°	1159	1165	1178	1201	1208	533
35°	1008	1019	1046	1080	1091	630
45°	830	847	890	938	956	640
55°	637	662	721	780	803	568
65°	430	466	542	610	634	427
75°	222	273	356	424	448	237
85°	46	90	126	142	147	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1332.4	1332.4	1332.4	1332.4	1332.4
2.5°	1333.7	1332.4	1325.7	1332.4	1331.0
5°	1329.7	1328.3	1321.6	1329.7	1329.7
7.5°	1320.3	1320.3	1313.6	1323.0	1324.3
10°	1306.9	1306.9	1302.9	1313.6	1313.6
12.5°	1290.8	1290.8	1290.8	1301.5	1302.9
15°	1270.7	1272.0	1273.4	1286.8	1289.5
17.5°	1246.6	1249.3	1253.3	1269.4	1272.0
20°	1221.1	1223.8	1230.5	1249.3	1253.3
22.5°	1188.9	1195.6	1205.0	1226.5	1230.5
25°	1159.4	1164.8	1178.2	1201.0	1207.7
27.5°	1123.3	1131.3	1148.7	1172.8	1182.2
30°	1087.1	1095.1	1116.6	1144.7	1152.7
32.5°	1048.2	1060.3	1083.0	1112.5	1121.9
35°	1008.0	1018.7	1045.5	1080.4	1091.1
37.5°	963.7	978.5	1008.0	1045.5	1058.9
40°	920.9	936.9	970.4	1010.7	1026.7
42.5°	878.0	894.0	931.6	977.2	993.2
45°	829.7	847.1	890.0	938.3	955.7
47.5°	781.5	802.9	849.8	900.7	919.5
50°	731.9	756.0	806.9	860.5	882.0
52.5°	687.6	710.4	764.0	821.7	841.8
55°	636.7	662.2	721.1	780.1	802.9
57.5°	584.4	612.6	675.6	739.9	762.7
60°	533.5	564.3	634.0	698.3	723.8
62.5°	483.9	514.7	587.1	654.1	679.6
65°	430.3	466.5	541.5	609.9	634.0
67.5°	379.3	418.2	497.3	564.3	588.4
70°	329.7	367.3	451.7	517.4	541.5
72.5°	276.1	319.0	403.5	471.8	497.3
75°	222.5	273.4	356.5	423.6	447.7
77.5°	172.9	225.2	308.3	363.2	375.3
80°	127.3	181.0	253.3	292.2	307.0
82.5°	81.8	135.4	193.0	221.2	233.2
85°	45.6	89.8	126.0	142.1	147.4
87.5°	18.8	38.9	50.9	57.6	57.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)