

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: P310878

Luminaire Tested: **24FCZ2-50HE-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: P310878
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: 24FCZ2-50HE-UNV-L82765-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 4059.0 lumens
Efficiency: N/A
Efficacy: 106.5 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

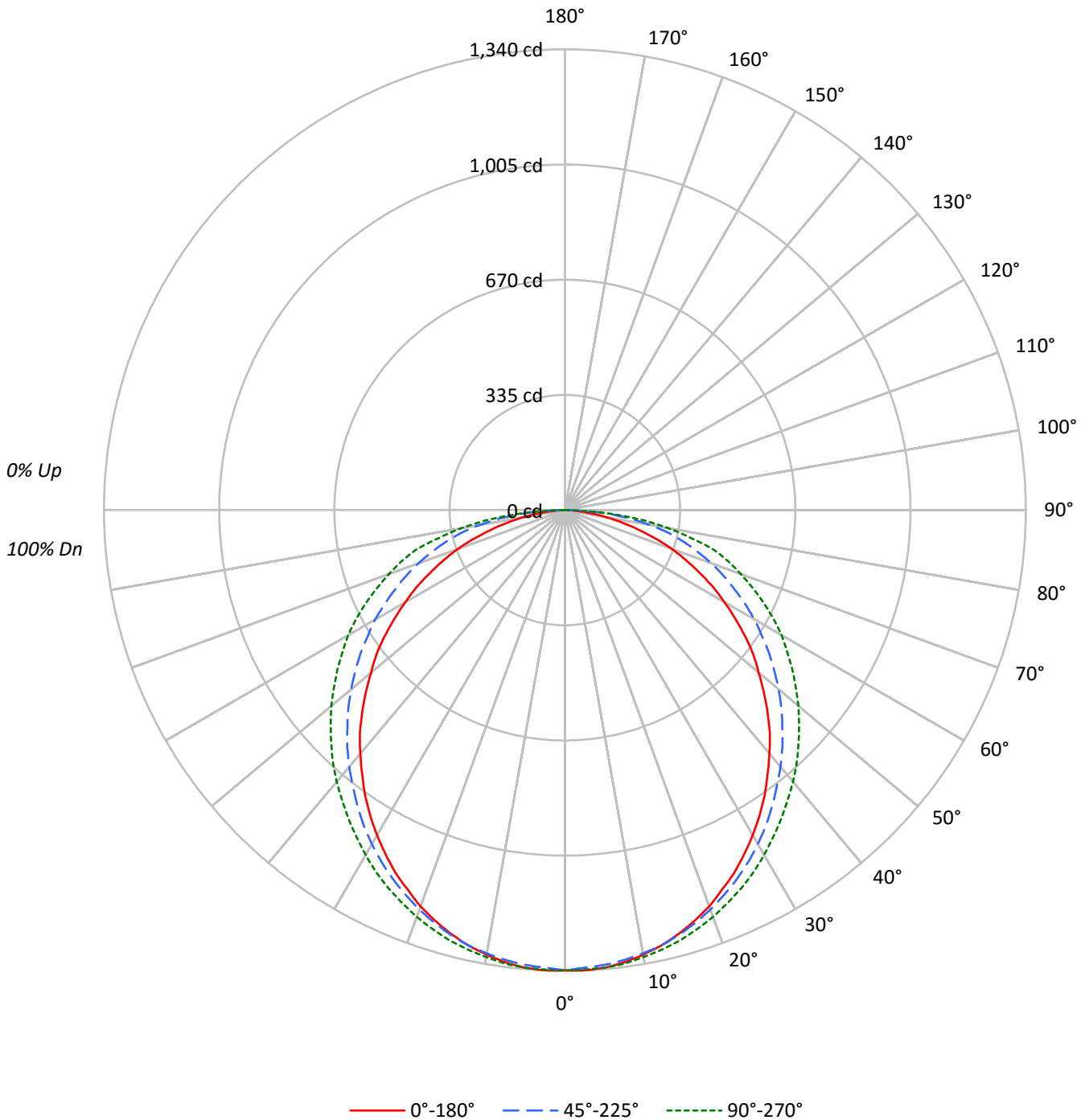
Input Watts (W): 38.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1801	1801	1801
5°	1804	1793	1804
10°	1794	1788	1803
15°	1778	1782	1805
20°	1757	1770	1803
25°	1729	1757	1801
30°	1697	1743	1799
35°	1663	1725	1801
40°	1625	1713	1812
45°	1586	1701	1827
50°	1539	1697	1855
55°	1501	1700	1892
60°	1442	1714	1957
65°	1376	1732	2028
70°	1303	1785	2140
75°	1162	1862	2338
80°	991	1972	2390
85°	707	1954	2286



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.7	3.1
10°-20°	362.2	8.9
20°-30°	547.1	13.5
30°-40°	659.4	16.2
40°-50°	692.3	17.1
50°-60°	647.7	16.0
60°-70°	534.9	13.2
70°-80°	364.4	9.0
80°-90°	124.3	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°	1036.1	25.5
0°-40°	1695.5	41.8
0°-60°	3035.4	74.8
0°-90°	4059.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4059.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1339	1339	1339	1339	1339	
5°	1336	1335	1328	1336	1336	127
15°	1277	1278	1279	1293	1296	360
25°	1165	1170	1184	1207	1213	536
35°	1013	1024	1050	1085	1096	633
45°	834	851	894	943	960	643
55°	640	665	724	784	807	571
65°	432	469	544	613	637	429
75°	224	275	358	426	450	238
85°	46	90	127	143	148	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1338.6	1338.6	1338.6	1338.6	1338.6
2.5°	1340.0	1338.6	1331.9	1338.6	1337.3
5°	1335.9	1334.6	1327.8	1335.9	1335.9
7.5°	1326.5	1326.5	1319.8	1329.2	1330.5
10°	1313.0	1313.0	1309.0	1319.8	1319.8
12.5°	1296.9	1296.9	1296.9	1307.6	1309.0
15°	1276.7	1278.0	1279.4	1292.8	1295.5
17.5°	1252.4	1255.1	1259.2	1275.3	1278.0
20°	1226.8	1229.5	1236.3	1255.1	1259.2
22.5°	1194.5	1201.3	1210.7	1232.2	1236.3
25°	1164.9	1170.3	1183.8	1206.6	1213.4
27.5°	1128.5	1136.6	1154.1	1178.4	1187.8
30°	1092.2	1100.3	1121.8	1150.1	1158.2
32.5°	1053.1	1065.2	1088.1	1117.8	1127.2
35°	1012.7	1023.5	1050.4	1085.4	1096.2
37.5°	968.3	983.1	1012.7	1050.4	1063.9
40°	925.2	941.3	975.0	1015.4	1031.6
42.5°	882.1	898.3	936.0	981.7	997.9
45°	833.6	851.1	894.2	942.7	960.2
47.5°	785.1	806.7	853.8	905.0	923.8
50°	735.3	759.5	810.7	864.6	886.1
52.5°	690.9	713.8	767.6	825.5	845.7
55°	639.7	665.3	724.5	783.8	806.7
57.5°	587.2	615.4	678.7	743.4	766.3
60°	536.0	567.0	637.0	701.6	727.2
62.5°	486.2	517.1	589.9	657.2	682.8
65°	432.3	468.7	544.1	612.7	637.0
67.5°	381.1	420.2	499.6	567.0	591.2
70°	331.3	369.0	453.8	519.8	544.1
72.5°	277.4	320.5	405.4	474.0	499.6
75°	223.6	274.7	358.2	425.6	449.8
77.5°	173.7	226.2	309.7	365.0	377.1
80°	127.9	181.8	254.5	293.6	308.4
82.5°	82.1	136.0	193.9	222.2	234.3
85°	45.8	90.2	126.6	142.8	148.1
87.5°	18.9	39.1	51.2	57.9	57.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)