

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: P313906

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-CP187-W2A-U-3500K**

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: P313906
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: 24FCZ2-40HE-UNV-L83050-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3500K 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: 3484.0 lumens
Efficiency: N/A
Efficacy: 114.6 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

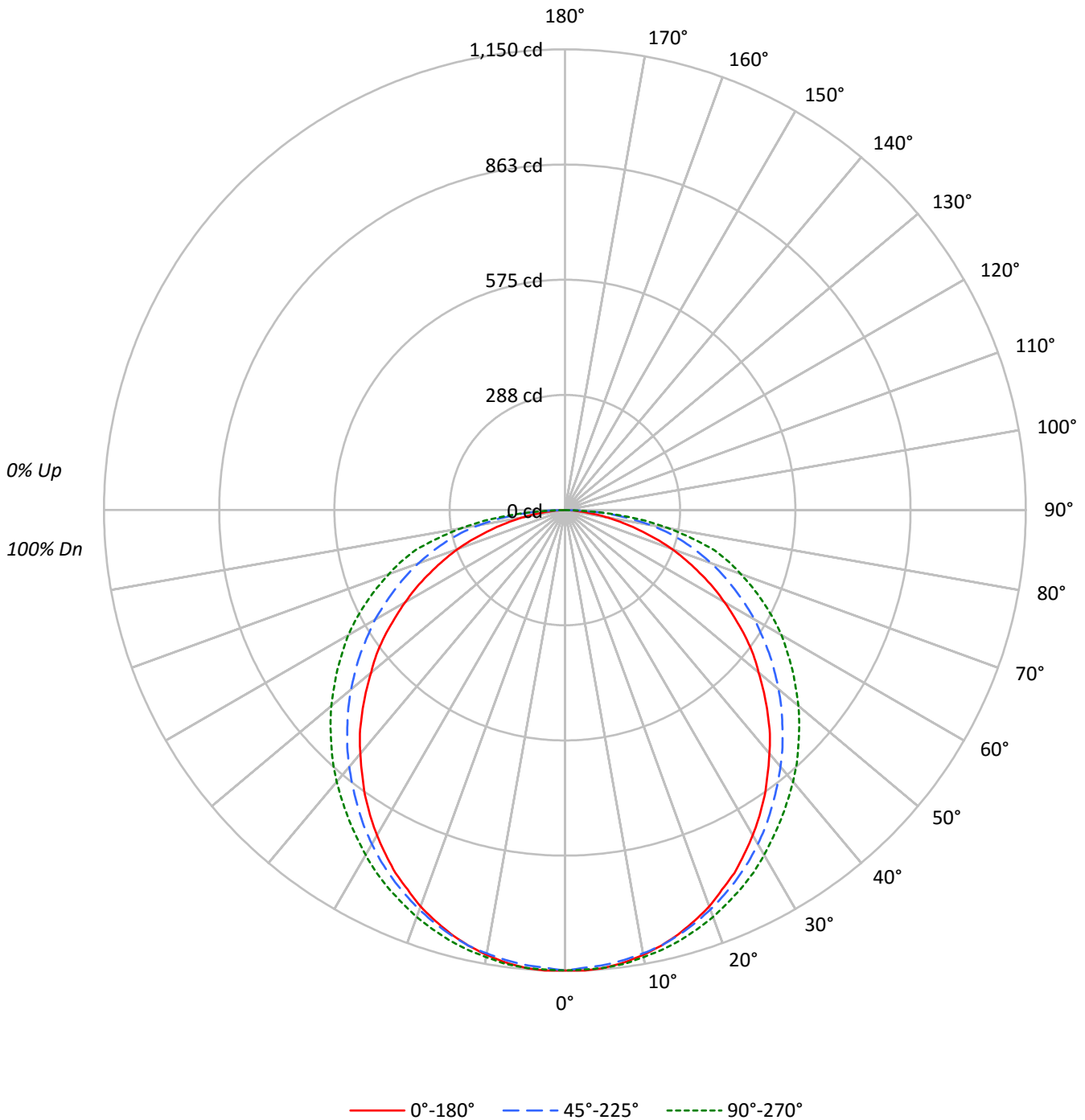
Input Watts (W): 30.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1546	1546	1546
5°	1549	1539	1549
10°	1540	1535	1548
15°	1526	1530	1549
20°	1508	1519	1548
25°	1484	1508	1546
30°	1457	1496	1544
35°	1428	1481	1545
40°	1395	1470	1555
45°	1361	1460	1568
50°	1321	1457	1592
55°	1288	1459	1624
60°	1238	1471	1680
65°	1181	1487	1741
70°	1119	1532	1837
75°	998	1599	2007
80°	851	1693	2051
85°	607	1678	1964



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.7	3.1
10°-20°	310.9	8.9
20°-30°	469.6	13.5
30°-40°	566.0	16.2
40°-50°	594.2	17.1
50°-60°	555.9	16.0
60°-70°	459.1	13.2
70°-80°	312.8	9.0
80°-90°	106.7	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°	889.3	25.5
0°-40°	1455.3	41.8
0°-60°	2605.4	74.8
0°-90°	3484.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3484.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1149	1149	1149	1149	1149	
5°	1147	1146	1140	1147	1147	109
15°	1096	1097	1098	1110	1112	309
25°	1000	1004	1016	1036	1042	460
35°	869	878	902	932	941	543
45°	716	730	768	809	824	552
55°	549	571	622	673	692	490
65°	371	402	467	526	547	368
75°	192	236	308	365	386	205
85°	39	77	109	122	127	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1149.0	1149.0	1149.0	1149.0	1149.0
2.5°	1150.1	1149.0	1143.2	1149.0	1147.8
5°	1146.7	1145.5	1139.7	1146.7	1146.7
7.5°	1138.6	1138.6	1132.8	1140.9	1142.1
10°	1127.0	1127.0	1123.6	1132.8	1132.8
12.5°	1113.2	1113.2	1113.2	1122.4	1123.6
15°	1095.8	1097.0	1098.1	1109.7	1112.0
17.5°	1075.0	1077.3	1080.8	1094.7	1097.0
20°	1053.1	1055.4	1061.1	1077.3	1080.8
22.5°	1025.3	1031.1	1039.2	1057.7	1061.1
25°	999.9	1004.5	1016.1	1035.7	1041.5
27.5°	968.7	975.6	990.6	1011.4	1019.5
30°	937.5	944.4	962.9	987.2	994.1
32.5°	903.9	914.3	934.0	959.4	967.5
35°	869.3	878.5	901.6	931.7	940.9
37.5°	831.1	843.8	869.3	901.6	913.2
40°	794.1	808.0	836.9	871.6	885.4
42.5°	757.1	771.0	803.4	842.7	856.5
45°	715.5	730.5	767.5	809.1	824.2
47.5°	673.9	692.4	732.9	776.8	793.0
50°	631.1	651.9	695.9	742.1	760.6
52.5°	593.0	612.6	658.9	708.6	725.9
55°	549.1	571.0	621.9	672.8	692.4
57.5°	504.0	528.3	582.6	638.1	657.7
60°	460.1	486.6	546.8	602.2	624.2
62.5°	417.3	443.9	506.3	564.1	586.1
65°	371.1	402.3	467.0	525.9	546.8
67.5°	327.1	360.6	428.8	486.6	507.5
70°	284.4	316.7	389.5	446.2	467.0
72.5°	238.1	275.1	347.9	406.9	428.8
75°	191.9	235.8	307.5	365.3	386.1
77.5°	149.1	194.2	265.9	313.3	323.7
80°	109.8	156.1	218.5	252.0	264.7
82.5°	70.5	116.7	166.5	190.7	201.1
85°	39.3	77.4	108.7	122.5	127.2
87.5°	16.2	33.5	43.9	49.7	49.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)