

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: P314309

Luminaire Tested: **24FCZ2-40-UNV-L83050-S-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: P314309
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L83050-S-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 3857.0 lumens
Efficiency: N/A
Efficacy: 112.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

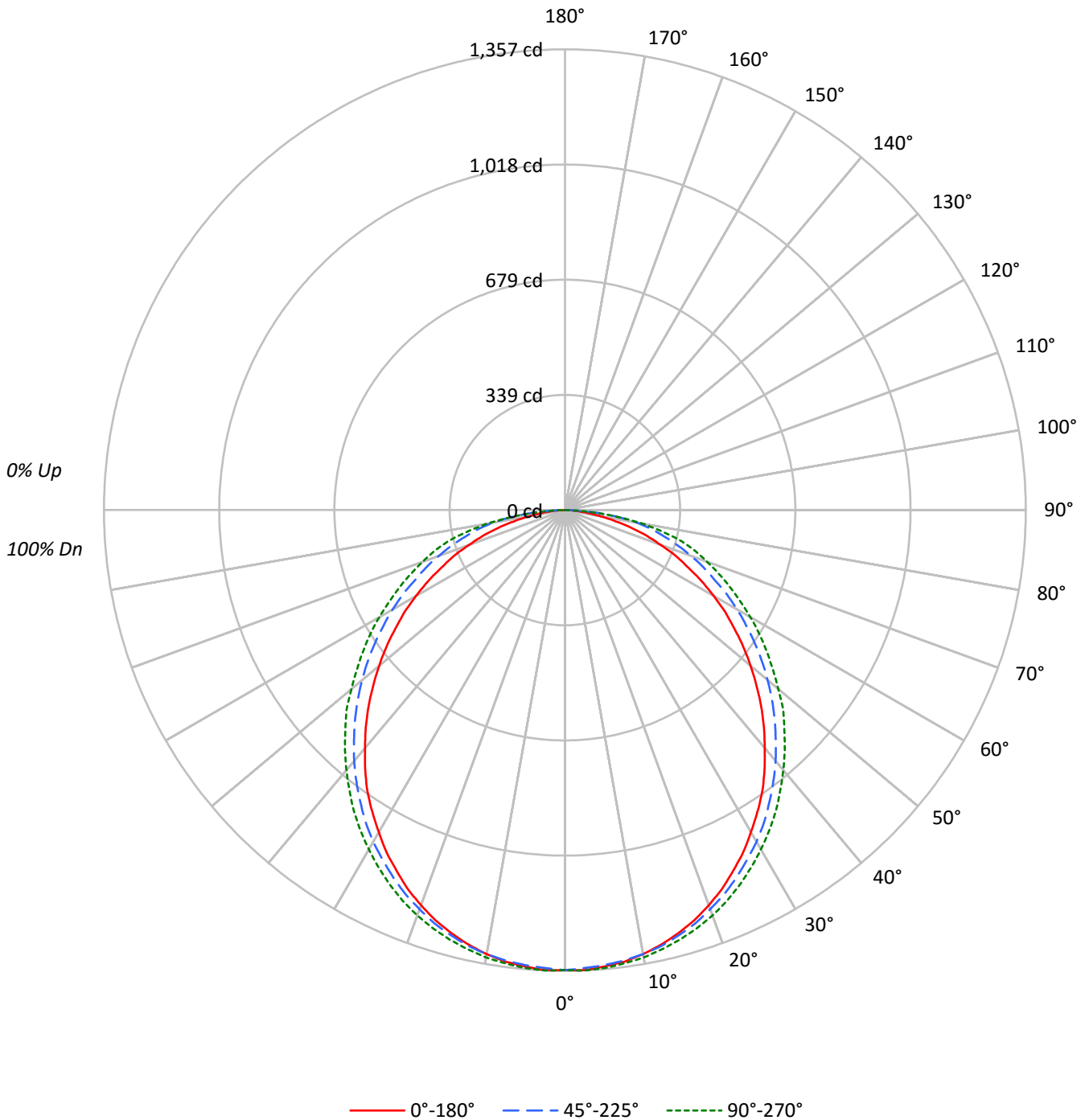
Input Watts (W): 34.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1823	1823	1823
5°	1822	1817	1828
10°	1814	1814	1828
15°	1797	1806	1824
20°	1773	1791	1819
25°	1741	1773	1808
30°	1702	1753	1793
35°	1664	1725	1779
40°	1607	1696	1758
45°	1555	1662	1739
50°	1495	1631	1718
55°	1428	1601	1701
60°	1362	1576	1698
65°	1275	1549	1708
70°	1181	1557	1754
75°	1057	1586	1853
80°	855	1680	1813
85°	644	1476	1437



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.3	3.3
10°-20°	366.5	9.5
20°-30°	551.0	14.3
30°-40°	656.3	17.0
40°-50°	671.7	17.4
50°-60°	604.7	15.7
60°-70°	474.9	12.3
70°-80°	308.2	8.0
80°-90°	95.3	2.5
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°	1045.8	27.1
0°-40°	1702.1	44.1
0°-60°	2978.5	77.2
0°-90°	3857.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3857.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1355	1355	1355	1355	1355	
5°	1349	1351	1345	1352	1354	128
15°	1290	1294	1296	1307	1310	364
25°	1172	1182	1194	1214	1218	540
35°	1013	1025	1050	1076	1083	632
45°	817	837	874	907	914	630
55°	609	636	682	718	725	546
65°	401	431	486	527	537	399
75°	203	243	305	347	356	215
85°	42	77	96	93	93	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1355.0	1355.0	1355.0	1355.0	1355.0
2.5°	1356.2	1356.2	1350.1	1356.2	1357.4
5°	1348.9	1351.3	1345.2	1352.5	1353.8
7.5°	1341.5	1341.5	1337.8	1345.2	1346.4
10°	1328.0	1329.3	1328.0	1336.6	1337.8
12.5°	1310.9	1313.3	1314.6	1323.1	1324.4
15°	1290.1	1293.7	1296.2	1307.2	1309.7
17.5°	1266.8	1270.5	1276.6	1288.8	1291.3
20°	1238.6	1243.5	1250.9	1266.8	1270.5
22.5°	1208.0	1212.9	1225.1	1239.8	1246.0
25°	1172.4	1182.2	1194.5	1214.1	1217.8
27.5°	1136.9	1145.5	1161.4	1182.2	1187.1
30°	1095.3	1108.7	1128.3	1149.2	1154.1
32.5°	1054.8	1068.3	1091.6	1113.6	1119.8
35°	1013.2	1025.4	1049.9	1075.7	1083.0
37.5°	965.4	981.3	1008.3	1034.0	1041.4
40°	915.2	934.8	965.4	992.4	1000.9
42.5°	867.4	888.2	918.8	948.2	958.0
45°	817.2	836.8	873.5	906.6	913.9
47.5°	765.7	787.8	827.0	860.0	872.3
50°	714.2	737.5	779.2	813.5	820.8
52.5°	662.8	687.3	731.4	768.2	771.8
55°	608.9	635.8	682.4	717.9	725.3
57.5°	559.9	583.2	633.4	670.1	678.7
60°	506.0	531.7	585.6	619.9	630.9
62.5°	454.5	481.5	537.8	572.1	581.9
65°	400.6	431.2	486.4	526.8	536.6
67.5°	354.1	383.5	442.3	481.5	491.3
70°	300.2	333.2	395.7	436.1	445.9
72.5°	253.6	287.9	350.4	389.6	404.3
75°	203.4	242.6	305.1	346.7	356.5
77.5°	154.4	199.7	263.4	295.3	295.3
80°	110.3	158.0	216.8	231.5	234.0
82.5°	72.3	118.8	160.5	159.3	159.3
85°	41.7	77.2	95.6	93.1	93.1
87.5°	15.9	31.9	34.3	34.3	33.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)