

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: P313932

Luminaire Tested: **24FCZ2-40-UNV-L83050-CP187-W2A-U-4000K**

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: P313932
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: 24FCZ2-40-UNV-L83050-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4000K 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: 3636.0 lumens
Efficiency: N/A
Efficacy: 108.5 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

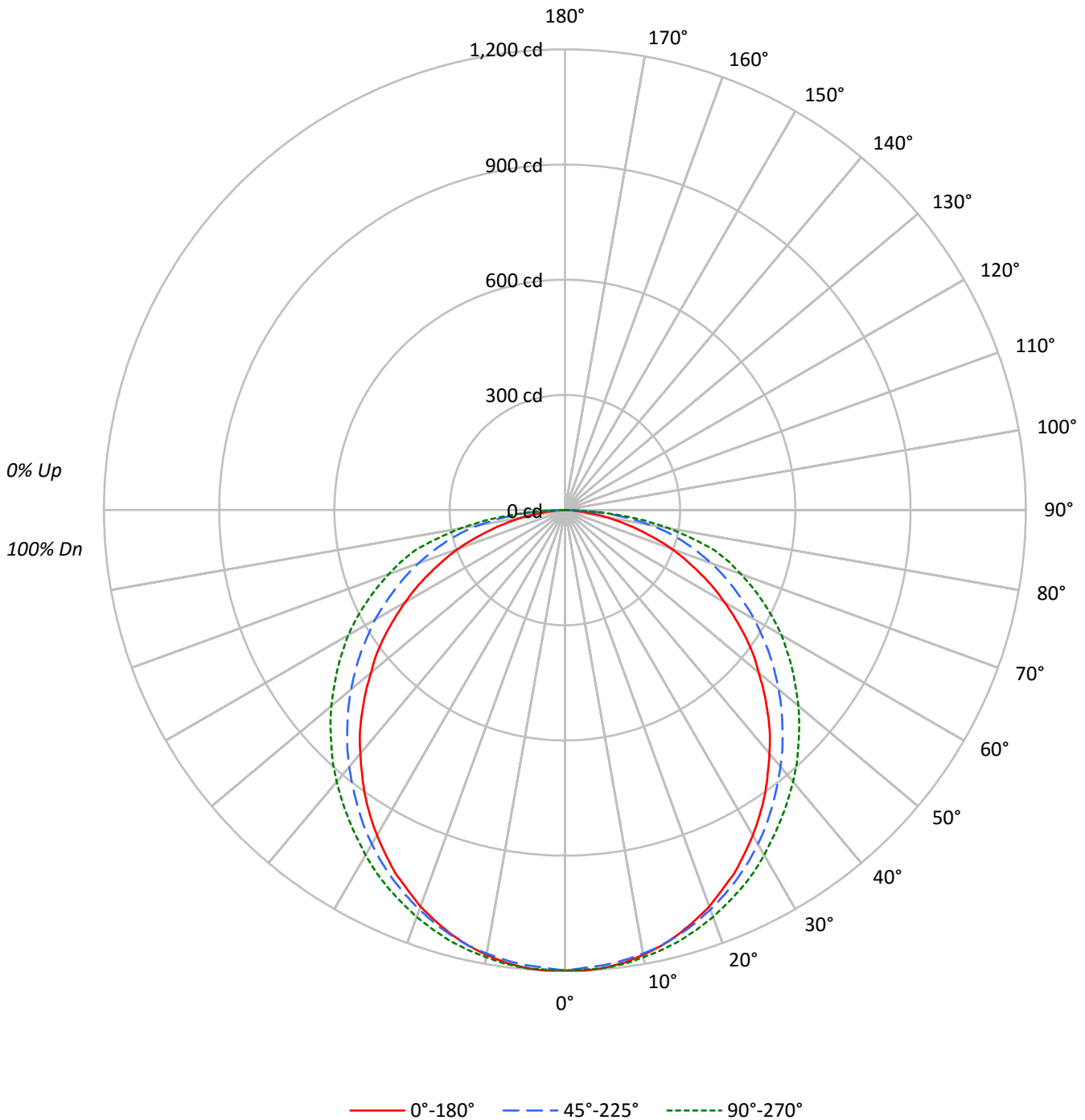
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1613	1613	1613
5°	1616	1607	1616
10°	1607	1602	1615
15°	1593	1596	1617
20°	1574	1586	1615
25°	1549	1574	1614
30°	1520	1561	1612
35°	1490	1546	1613
40°	1456	1534	1623
45°	1421	1524	1637
50°	1379	1520	1662
55°	1344	1522	1695
60°	1292	1535	1753
65°	1233	1552	1817
70°	1168	1599	1917
75°	1041	1668	2095
80°	888	1767	2141
85°	633	1751	2049



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.5	3.1
10°-20°	324.5	8.9
20°-30°	490.1	13.5
30°-40°	590.7	16.2
40°-50°	620.1	17.1
50°-60°	580.2	16.0
60°-70°	479.1	13.2
70°-80°	326.5	9.0
80°-90°	111.3	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°	928.1	25.5
0°-40°	1518.8	41.8
0°-60°	2719.1	74.8
0°-90°	3636.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3636.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1199	1199	1199	1199	1199	
5°	1197	1196	1190	1197	1197	114
15°	1144	1145	1146	1158	1160	322
25°	1044	1048	1060	1081	1087	480
35°	907	917	941	972	982	567
45°	747	762	801	844	860	576
55°	573	596	649	702	723	511
65°	387	420	487	549	571	384
75°	200	246	321	381	403	214
85°	41	81	113	128	133	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1199.1	1199.1	1199.1	1199.1	1199.1
2.5°	1200.3	1199.1	1193.1	1199.1	1197.9
5°	1196.7	1195.5	1189.5	1196.7	1196.7
7.5°	1188.3	1188.3	1182.2	1190.7	1191.9
10°	1176.2	1176.2	1172.6	1182.2	1182.2
12.5°	1161.7	1161.7	1161.7	1171.4	1172.6
15°	1143.6	1144.8	1146.0	1158.1	1160.5
17.5°	1121.9	1124.3	1127.9	1142.4	1144.8
20°	1099.0	1101.4	1107.4	1124.3	1127.9
22.5°	1070.0	1076.1	1084.5	1103.8	1107.4
25°	1043.5	1048.3	1060.4	1080.9	1086.9
27.5°	1010.9	1018.2	1033.8	1055.6	1064.0
30°	978.4	985.6	1004.9	1030.2	1037.5
32.5°	943.4	954.2	974.7	1001.3	1009.7
35°	907.2	916.8	941.0	972.3	982.0
37.5°	867.4	880.6	907.2	941.0	953.0
40°	828.8	843.2	873.4	909.6	924.1
42.5°	790.2	804.6	838.4	879.4	893.9
45°	746.7	762.4	801.0	844.5	860.1
47.5°	703.3	722.6	764.8	810.7	827.6
50°	658.7	680.4	726.2	774.5	793.8
52.5°	618.9	639.4	687.6	739.5	757.6
55°	573.0	595.9	649.0	702.1	722.6
57.5°	526.0	551.3	608.0	665.9	686.4
60°	480.1	507.9	570.6	628.5	651.4
62.5°	435.5	463.2	528.4	588.7	611.6
65°	387.2	419.8	487.4	548.9	570.6
67.5°	341.4	376.4	447.6	507.9	529.6
70°	296.8	330.5	406.5	465.7	487.4
72.5°	248.5	287.1	363.1	424.6	447.6
75°	200.3	246.1	320.9	381.2	402.9
77.5°	155.6	202.7	277.5	326.9	337.8
80°	114.6	162.9	228.0	263.0	276.3
82.5°	73.6	121.8	173.7	199.0	209.9
85°	41.0	80.8	113.4	127.9	132.7
87.5°	16.9	35.0	45.8	51.9	51.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)