

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: P314306

Luminaire Tested: **24FCZ2-40-UNV-L83050-S-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: P314306
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 3639.0 lumens
Efficiency: N/A
Efficacy: 111.3 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

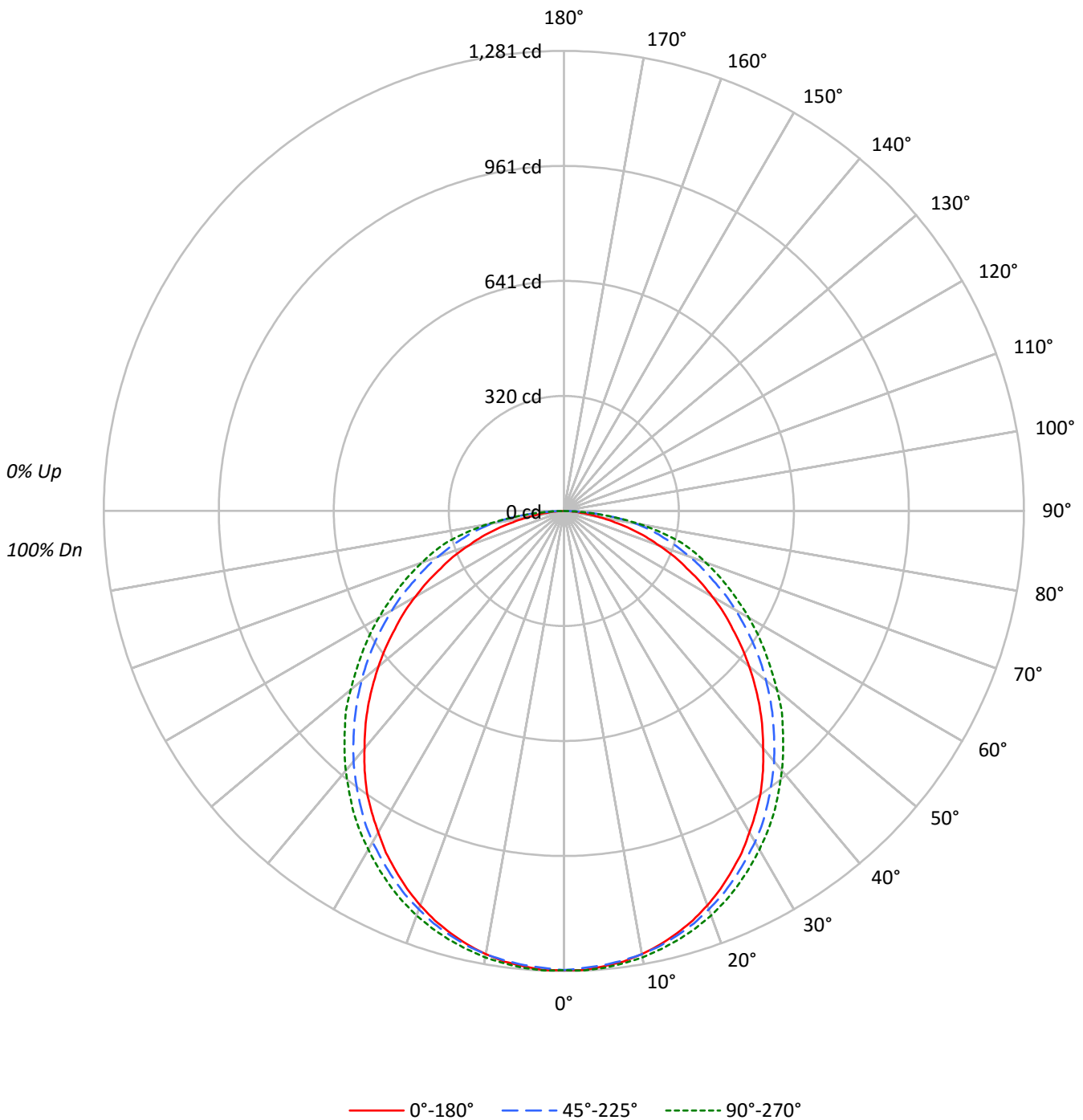
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1720	1720	1720
5°	1719	1714	1725
10°	1712	1712	1724
15°	1695	1703	1721
20°	1673	1690	1716
25°	1642	1673	1706
30°	1606	1654	1692
35°	1570	1627	1678
40°	1516	1600	1659
45°	1467	1568	1641
50°	1411	1539	1621
55°	1348	1510	1605
60°	1285	1487	1602
65°	1203	1461	1612
70°	1114	1469	1655
75°	998	1496	1749
80°	806	1585	1711
85°	607	1392	1355



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.0	3.3
10°-20°	345.8	9.5
20°-30°	519.8	14.3
30°-40°	619.2	17.0
40°-50°	633.7	17.4
50°-60°	570.5	15.7
60°-70°	448.1	12.3
70°-80°	290.8	8.0
80°-90°	89.9	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°	986.7	27.1
0°-40°	1605.9	44.1
0°-60°	2810.2	77.2
0°-90°	3639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3639.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1278	1278	1278	1278	1278	
5°	1273	1275	1269	1276	1277	121
15°	1217	1221	1223	1233	1236	343
25°	1106	1115	1127	1146	1149	510
35°	956	968	991	1015	1022	596
45°	771	790	824	855	862	594
55°	574	600	644	677	684	515
65°	378	407	459	497	506	376
75°	192	229	288	327	336	203
85°	39	73	90	88	88	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1278.4	1278.4	1278.4	1278.4	1278.4
2.5°	1279.6	1279.6	1273.8	1279.6	1280.7
5°	1272.6	1274.9	1269.2	1276.1	1277.2
7.5°	1265.7	1265.7	1262.2	1269.2	1270.3
10°	1253.0	1254.1	1253.0	1261.1	1262.2
12.5°	1236.8	1239.1	1240.3	1248.4	1249.5
15°	1217.1	1220.6	1222.9	1233.3	1235.6
17.5°	1195.2	1198.6	1204.4	1216.0	1218.3
20°	1168.6	1173.2	1180.2	1195.2	1198.6
22.5°	1139.7	1144.3	1155.9	1169.8	1175.5
25°	1106.2	1115.4	1127.0	1145.5	1148.9
27.5°	1072.7	1080.7	1095.8	1115.4	1120.0
30°	1033.4	1046.1	1064.6	1084.2	1088.8
32.5°	995.2	1007.9	1029.9	1050.7	1056.5
35°	955.9	967.5	990.6	1014.9	1021.8
37.5°	910.8	925.9	951.3	975.6	982.5
40°	863.4	881.9	910.8	936.3	944.4
42.5°	818.4	838.0	866.9	894.7	903.9
45°	771.0	789.5	824.1	855.4	862.3
47.5°	722.4	743.2	780.2	811.4	823.0
50°	673.9	695.8	735.1	767.5	774.4
52.5°	625.3	648.4	690.1	724.7	728.2
55°	574.5	599.9	643.8	677.3	684.3
57.5°	528.2	550.2	597.6	632.3	640.4
60°	477.4	501.7	552.5	584.9	595.3
62.5°	428.8	454.3	507.4	539.8	549.0
65°	378.0	406.9	458.9	497.0	506.3
67.5°	334.0	361.8	417.3	454.3	463.5
70°	283.2	314.4	373.3	411.5	420.7
72.5°	239.3	271.6	330.6	367.6	381.4
75°	191.9	228.9	287.8	327.1	336.4
77.5°	145.6	188.4	248.5	278.6	278.6
80°	104.0	149.1	204.6	218.5	220.8
82.5°	68.2	112.1	151.4	150.3	150.3
85°	39.3	72.8	90.2	87.8	87.8
87.5°	15.0	30.1	32.4	32.4	31.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)