

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: P314305

Luminaire Tested: **24FCZ2-40-UNV-L83050-S-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: P314305
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-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 3439.0 lumens
Efficiency: N/A
Efficacy: 105.5 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

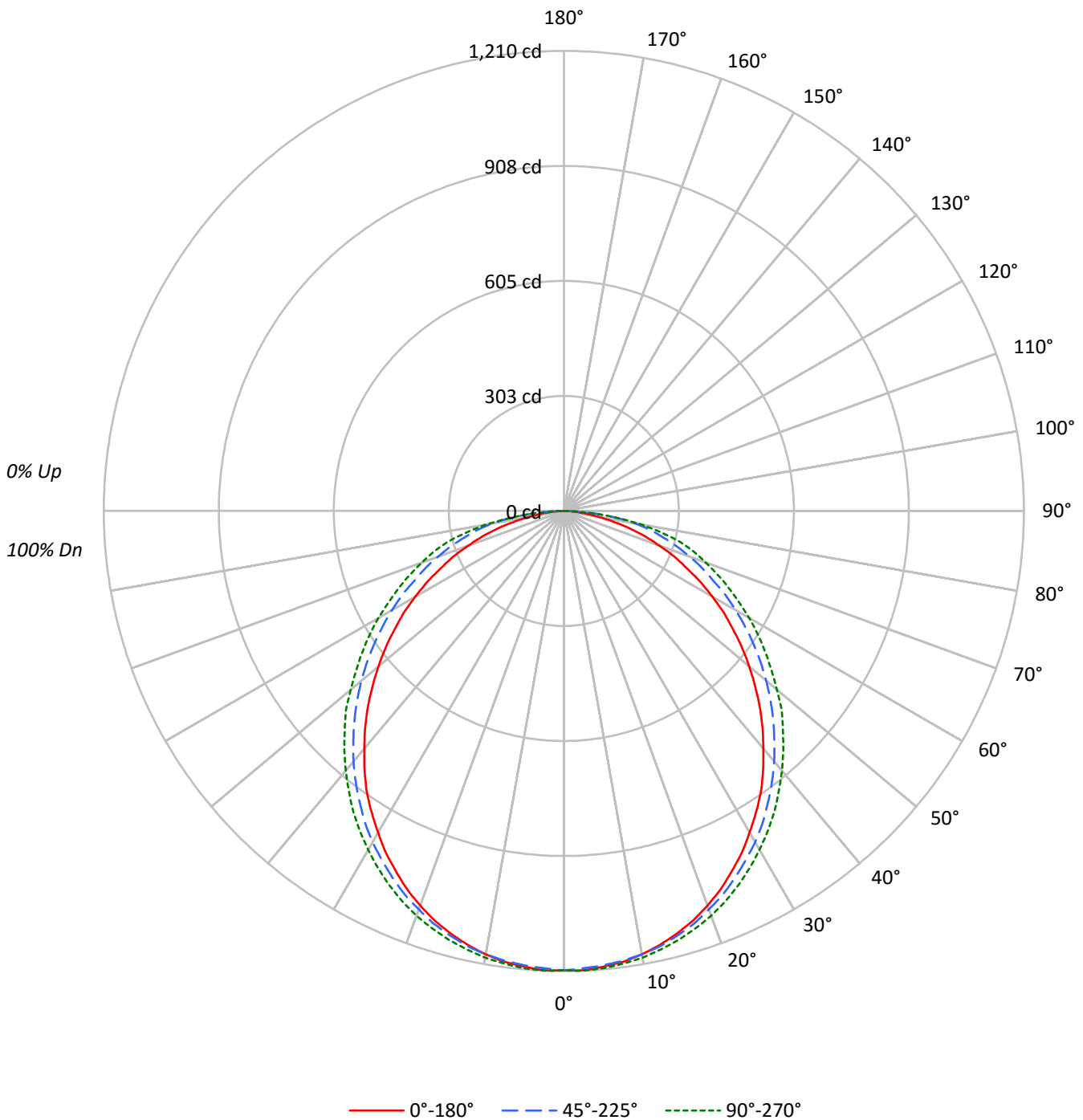
Input Watts (W): 32.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1625	1625	1625
5°	1624	1620	1630
10°	1618	1618	1630
15°	1602	1610	1627
20°	1581	1597	1622
25°	1552	1581	1612
30°	1517	1563	1599
35°	1484	1538	1586
40°	1433	1512	1568
45°	1386	1482	1551
50°	1333	1454	1532
55°	1274	1427	1517
60°	1214	1405	1514
65°	1137	1381	1523
70°	1053	1388	1564
75°	943	1414	1653
80°	762	1498	1616
85°	573	1315	1281



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.4	3.3
10°-20°	326.8	9.5
20°-30°	491.3	14.3
30°-40°	585.2	17.0
40°-50°	598.9	17.4
50°-60°	539.2	15.7
60°-70°	423.4	12.3
70°-80°	274.8	8.0
80°-90°	85.0	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°	932.5	27.1
0°-40°	1517.6	44.1
0°-60°	2655.7	77.2
0°-90°	3439.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3439.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1208	1208	1208	1208	1208	
5°	1203	1205	1199	1206	1207	114
15°	1150	1154	1156	1166	1168	324
25°	1045	1054	1065	1082	1086	482
35°	903	914	936	959	966	564
45°	729	746	779	808	815	562
55°	543	567	608	640	647	487
65°	357	384	434	470	478	356
75°	181	216	272	309	318	192
85°	37	69	85	83	83	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1208.1	1208.1	1208.1	1208.1	1208.1
2.5°	1209.2	1209.2	1203.8	1209.2	1210.3
5°	1202.7	1204.9	1199.4	1206.0	1207.1
7.5°	1196.1	1196.1	1192.9	1199.4	1200.5
10°	1184.1	1185.2	1184.1	1191.8	1192.9
12.5°	1168.8	1171.0	1172.1	1179.7	1180.8
15°	1150.2	1153.5	1155.7	1165.5	1167.7
17.5°	1129.5	1132.8	1138.2	1149.2	1151.3
20°	1104.4	1108.7	1115.3	1129.5	1132.8
22.5°	1077.1	1081.4	1092.4	1105.5	1110.9
25°	1045.4	1054.1	1065.0	1082.5	1085.8
27.5°	1013.7	1021.4	1035.6	1054.1	1058.5
30°	976.6	988.6	1006.1	1024.6	1029.0
32.5°	940.5	952.5	973.3	992.9	998.4
35°	903.4	914.3	936.1	959.1	965.6
37.5°	860.8	875.0	899.0	921.9	928.5
40°	816.0	833.5	860.8	884.8	892.5
42.5°	773.4	792.0	819.3	845.5	854.2
45°	728.6	746.1	778.8	808.3	814.9
47.5°	682.7	702.4	737.3	766.8	777.8
50°	636.8	657.6	694.7	725.3	731.9
52.5°	591.0	612.8	652.1	684.9	688.2
55°	542.9	566.9	608.4	640.1	646.7
57.5°	499.2	520.0	564.7	597.5	605.2
60°	451.1	474.1	522.1	552.7	562.6
62.5°	405.3	429.3	479.5	510.1	518.9
65°	357.2	384.5	433.7	469.7	478.5
67.5°	315.7	341.9	394.3	429.3	438.0
70°	267.6	297.1	352.8	388.9	397.6
72.5°	226.1	256.7	312.4	347.4	360.5
75°	181.3	216.3	272.0	309.1	317.9
77.5°	137.6	178.1	234.9	263.3	263.3
80°	98.3	140.9	193.3	206.5	208.6
82.5°	64.4	106.0	143.1	142.0	142.0
85°	37.1	68.8	85.2	83.0	83.0
87.5°	14.2	28.4	30.6	30.6	29.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)