

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: P310717

Luminaire Tested: **24FCZ2-40-UNV-L82765-CA08-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: P310717
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-L82765-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 3615.0 lumens
Efficiency: N/A
Efficacy: 109.9 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

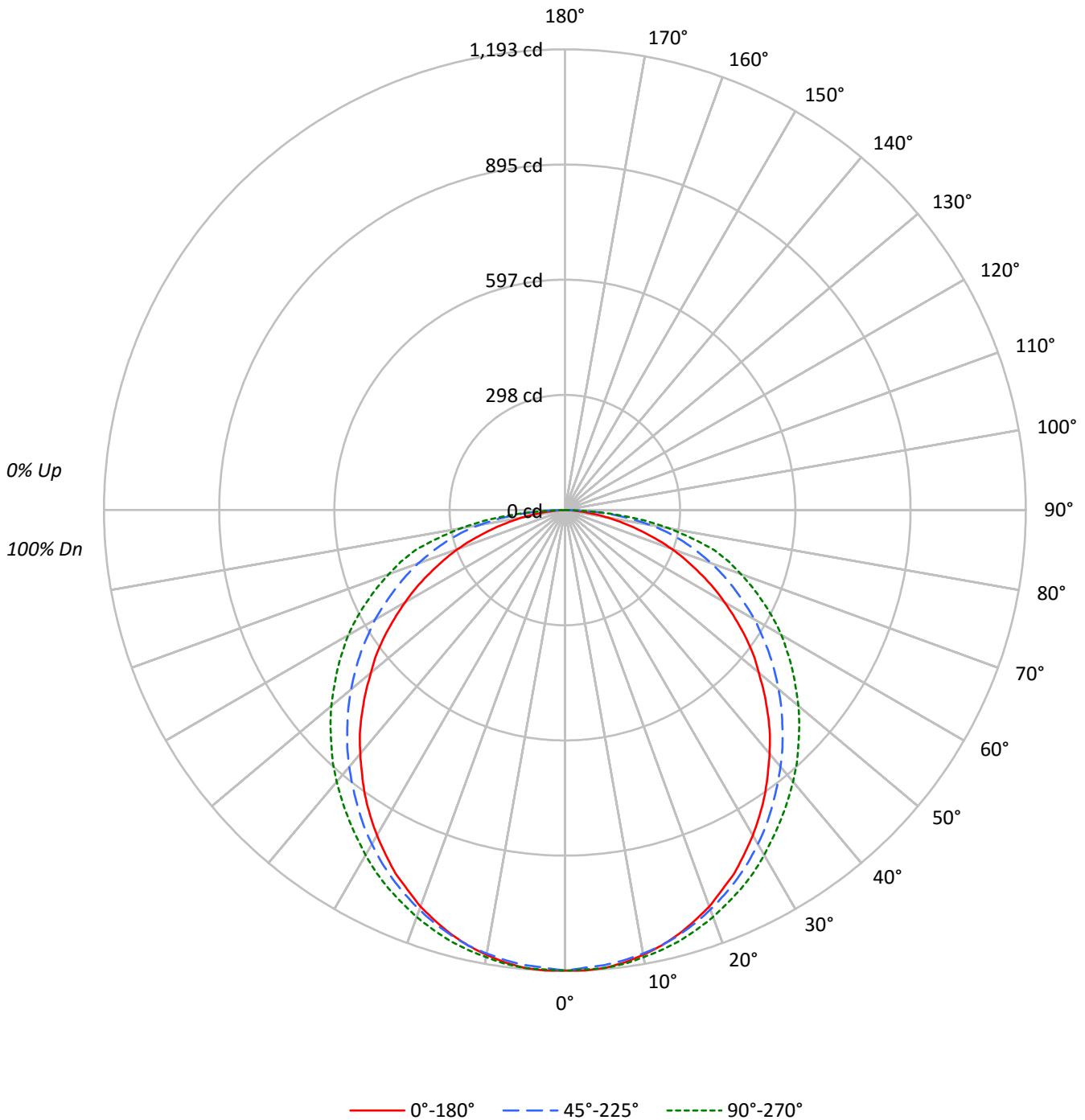
Input Watts (W): 32.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1604	1604	1604
5°	1607	1597	1607
10°	1598	1593	1606
15°	1584	1587	1607
20°	1564	1576	1606
25°	1540	1565	1604
30°	1511	1552	1603
35°	1481	1537	1604
40°	1447	1525	1614
45°	1413	1515	1627
50°	1371	1511	1652
55°	1336	1514	1685
60°	1285	1527	1743
65°	1226	1543	1806
70°	1161	1590	1906
75°	1035	1658	2083
80°	883	1757	2128
85°	630	1740	2036



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.8	3.1
10°-20°	322.6	8.9
20°-30°	487.3	13.5
30°-40°	587.3	16.2
40°-50°	616.5	17.1
50°-60°	576.8	16.0
60°-70°	476.3	13.2
70°-80°	324.6	9.0
80°-90°	110.7	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°	922.7	25.5
0°-40°	1510.0	41.8
0°-60°	2703.4	74.8
0°-90°	3615.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3615.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1192	1192	1192	1192	1192	
5°	1190	1189	1183	1190	1190	113
15°	1137	1138	1139	1151	1154	320
25°	1038	1042	1054	1075	1081	477
35°	902	912	936	967	976	564
45°	742	758	796	840	855	573
55°	570	592	645	698	718	509
65°	385	417	485	546	567	382
75°	199	245	319	379	401	212
85°	41	80	113	127	132	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1192.2	1192.2	1192.2	1192.2	1192.2
2.5°	1193.4	1192.2	1186.2	1192.2	1191.0
5°	1189.8	1188.6	1182.6	1189.8	1189.8
7.5°	1181.4	1181.4	1175.4	1183.8	1185.0
10°	1169.4	1169.4	1165.8	1175.4	1175.4
12.5°	1155.0	1155.0	1155.0	1164.6	1165.8
15°	1137.0	1138.2	1139.4	1151.4	1153.8
17.5°	1115.4	1117.8	1121.4	1135.8	1138.2
20°	1092.6	1095.0	1101.0	1117.8	1121.4
22.5°	1063.9	1069.9	1078.3	1097.4	1101.0
25°	1037.5	1042.3	1054.3	1074.7	1080.7
27.5°	1005.1	1012.3	1027.9	1049.5	1057.9
30°	972.7	979.9	999.1	1024.3	1031.5
32.5°	937.9	948.7	969.1	995.5	1003.9
35°	901.9	911.5	935.5	966.7	976.3
37.5°	862.4	875.6	901.9	935.5	947.5
40°	824.0	838.4	868.4	904.3	918.7
42.5°	785.6	800.0	833.6	874.4	888.7
45°	742.4	758.0	796.4	839.6	855.2
47.5°	699.2	718.4	760.4	806.0	822.8
50°	654.9	676.5	722.0	770.0	789.2
52.5°	615.3	635.7	683.7	735.2	753.2
55°	569.7	592.5	645.3	698.0	718.4
57.5°	522.9	548.1	604.5	662.1	682.5
60°	477.4	504.9	567.3	624.9	647.7
62.5°	433.0	460.6	525.3	585.3	608.1
65°	385.0	417.4	484.6	545.7	567.3
67.5°	339.4	374.2	445.0	504.9	526.5
70°	295.1	328.6	404.2	463.0	484.6
72.5°	247.1	285.5	361.0	422.2	445.0
75°	199.1	244.7	319.0	379.0	400.6
77.5°	154.7	201.5	275.9	325.0	335.8
80°	113.9	161.9	226.7	261.5	274.7
82.5°	73.2	121.1	172.7	197.9	208.7
85°	40.8	80.4	112.7	127.1	131.9
87.5°	16.8	34.8	45.6	51.6	51.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)