

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: P310714

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP250-W2A-U-6500K**

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: P310714
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: 24FCZ2-40HE-UNV-L82765-CP250-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 6500K 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: 3612.0 lumens
Efficiency: N/A
Efficacy: 113.6 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

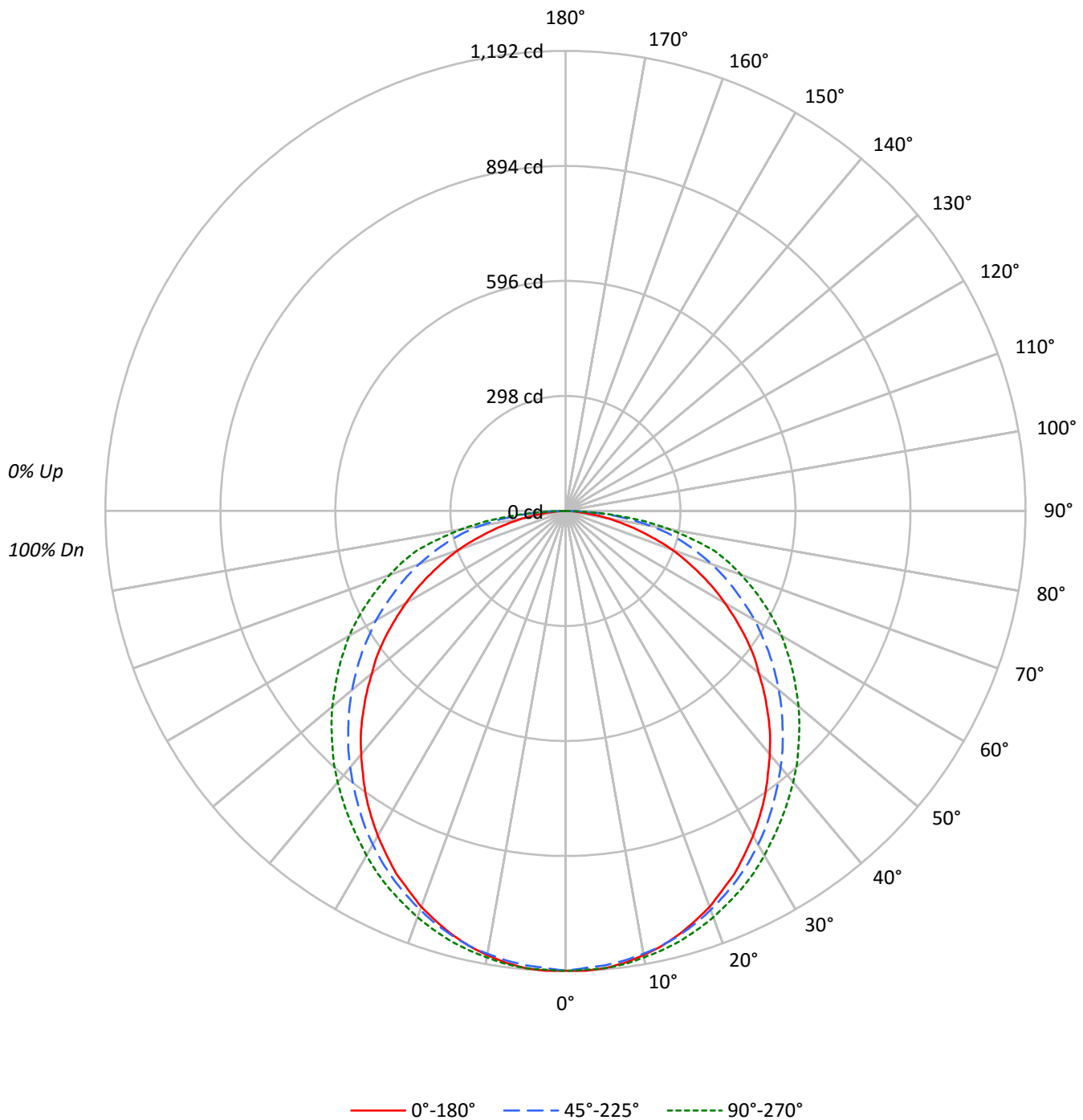
Input Watts (W): 31.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1603	1603	1603
5°	1606	1596	1606
10°	1596	1591	1605
15°	1583	1586	1606
20°	1563	1575	1604
25°	1539	1564	1603
30°	1510	1551	1601
35°	1480	1535	1602
40°	1446	1524	1612
45°	1412	1514	1626
50°	1370	1510	1650
55°	1335	1512	1684
60°	1284	1525	1741
65°	1225	1542	1805
70°	1160	1589	1905
75°	1034	1657	2081
80°	882	1755	2126
85°	628	1738	2035



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.7	3.1
10°-20°	322.3	8.9
20°-30°	486.9	13.5
30°-40°	586.8	16.2
40°-50°	616.0	17.1
50°-60°	576.3	16.0
60°-70°	475.9	13.2
70°-80°	324.3	9.0
80°-90°	110.6	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°	922.0	25.5
0°-40°	1508.8	41.8
0°-60°	2701.1	74.8
0°-90°	3612.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3612.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1191	1191	1191	1191	1191	
5°	1189	1188	1182	1189	1189	113
15°	1136	1137	1138	1150	1153	320
25°	1037	1041	1053	1074	1080	477
35°	901	911	935	966	976	563
45°	742	757	796	839	854	572
55°	569	592	645	698	718	508
65°	385	417	484	545	567	382
75°	199	244	319	379	400	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°	1191.2	1191.2	1191.2	1191.2	1191.2
2.5°	1192.4	1191.2	1185.2	1191.2	1190.0
5°	1188.8	1187.6	1181.6	1188.8	1188.8
7.5°	1180.4	1180.4	1174.4	1182.8	1184.0
10°	1168.4	1168.4	1164.8	1174.4	1174.4
12.5°	1154.1	1154.1	1154.1	1163.6	1164.8
15°	1136.1	1137.3	1138.5	1150.5	1152.9
17.5°	1114.5	1116.9	1120.5	1134.9	1137.3
20°	1091.7	1094.1	1100.1	1116.9	1120.5
22.5°	1063.0	1069.0	1077.4	1096.5	1100.1
25°	1036.6	1041.4	1053.4	1073.8	1079.8
27.5°	1004.3	1011.4	1027.0	1048.6	1057.0
30°	971.9	979.1	998.3	1023.4	1030.6
32.5°	937.1	947.9	968.3	994.7	1003.1
35°	901.2	910.8	934.7	965.9	975.5
37.5°	861.6	874.8	901.2	934.7	946.7
40°	823.3	837.7	867.6	903.6	918.0
42.5°	784.9	799.3	832.9	873.6	888.0
45°	741.8	757.4	795.7	838.9	854.5
47.5°	698.7	717.8	759.8	805.3	822.1
50°	654.3	675.9	721.4	769.4	788.5
52.5°	614.8	635.2	683.1	734.6	752.6
55°	569.2	592.0	644.7	697.5	717.8
57.5°	522.5	547.7	604.0	661.5	681.9
60°	477.0	504.5	566.8	624.4	647.1
62.5°	432.6	460.2	524.9	584.8	607.6
65°	384.7	417.0	484.2	545.3	566.8
67.5°	339.1	373.9	444.6	504.5	526.1
70°	294.8	328.4	403.9	462.6	484.2
72.5°	246.9	285.2	360.7	421.8	444.6
75°	198.9	244.5	318.8	378.7	400.3
77.5°	154.6	201.3	275.6	324.8	335.6
80°	113.8	161.8	226.5	261.3	274.4
82.5°	73.1	121.0	172.6	197.7	208.5
85°	40.7	80.3	112.6	127.0	131.8
87.5°	16.8	34.8	45.5	51.5	51.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)