

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: P313937

Luminaire Tested: **24FCZ2-40-UNV-L83050-CP250-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: P313937
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-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" 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: 3606.0 lumens
Efficiency: N/A
Efficacy: 107.6 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

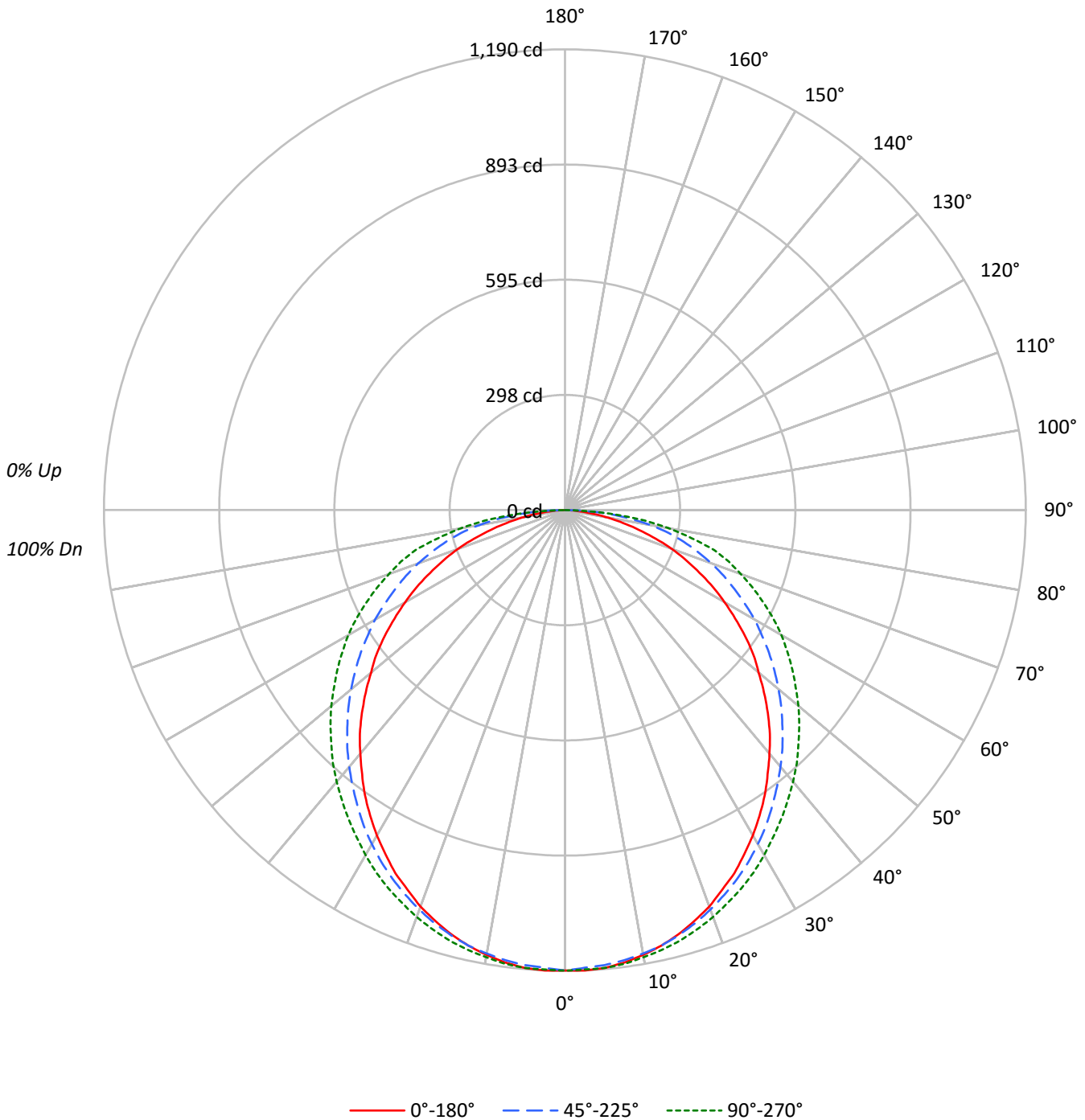
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1600	1600	1600
5°	1603	1593	1603
10°	1594	1589	1602
15°	1580	1583	1603
20°	1561	1573	1602
25°	1536	1561	1600
30°	1507	1548	1599
35°	1478	1533	1600
40°	1444	1521	1610
45°	1409	1512	1623
50°	1367	1508	1648
55°	1333	1510	1681
60°	1281	1523	1739
65°	1223	1539	1802
70°	1158	1586	1901
75°	1032	1654	2077
80°	881	1752	2123
85°	628	1737	2032



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.5	3.1
10°-20°	321.8	8.9
20°-30°	486.1	13.5
30°-40°	585.8	16.2
40°-50°	615.0	17.1
50°-60°	575.4	16.0
60°-70°	475.2	13.2
70°-80°	323.8	9.0
80°-90°	110.4	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°	920.4	25.5
0°-40°	1506.3	41.8
0°-60°	2696.6	74.8
0°-90°	3606.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3606.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1189	1189	1189	1189	1189	
5°	1187	1186	1180	1187	1187	113
15°	1134	1135	1137	1148	1151	320
25°	1035	1040	1052	1072	1078	476
35°	900	909	933	964	974	562
45°	741	756	794	838	853	571
55°	568	591	644	696	717	507
65°	384	416	483	544	566	381
75°	199	244	318	378	400	212
85°	41	80	112	127	132	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1189.2	1189.2	1189.2	1189.2	1189.2
2.5°	1190.4	1189.2	1183.2	1189.2	1188.0
5°	1186.8	1185.6	1179.7	1186.8	1186.8
7.5°	1178.5	1178.5	1172.5	1180.9	1182.0
10°	1166.5	1166.5	1162.9	1172.5	1172.5
12.5°	1152.1	1152.1	1152.1	1161.7	1162.9
15°	1134.2	1135.4	1136.6	1148.5	1150.9
17.5°	1112.7	1115.1	1118.6	1133.0	1135.4
20°	1089.9	1092.3	1098.3	1115.1	1118.6
22.5°	1061.2	1067.2	1075.6	1094.7	1098.3
25°	1034.9	1039.7	1051.6	1072.0	1078.0
27.5°	1002.6	1009.8	1025.3	1046.9	1055.2
30°	970.3	977.5	996.6	1021.7	1028.9
32.5°	935.6	946.4	966.7	993.0	1001.4
35°	899.7	909.3	933.2	964.3	973.9
37.5°	860.2	873.4	899.7	933.2	945.2
40°	821.9	836.3	866.2	902.1	916.4
42.5°	783.6	798.0	831.5	872.2	886.5
45°	740.6	756.1	794.4	837.5	853.0
47.5°	697.5	716.6	758.5	804.0	820.7
50°	653.2	674.8	720.2	768.1	787.2
52.5°	613.8	634.1	682.0	733.4	751.3
55°	568.3	591.0	643.7	696.3	716.6
57.5°	521.6	546.8	603.0	660.4	680.8
60°	476.2	503.7	565.9	623.3	646.1
62.5°	431.9	459.4	524.0	583.8	606.6
65°	384.0	416.3	483.3	544.4	565.9
67.5°	338.6	373.3	443.9	503.7	525.2
70°	294.3	327.8	403.2	461.8	483.3
72.5°	246.5	284.7	360.1	421.1	443.9
75°	198.6	244.1	318.2	378.1	399.6
77.5°	154.3	201.0	275.2	324.2	335.0
80°	113.7	161.5	226.1	260.8	274.0
82.5°	73.0	120.8	172.3	197.4	208.2
85°	40.7	80.2	112.5	126.8	131.6
87.5°	16.7	34.7	45.5	51.4	51.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)