

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: P311430

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP250-W2A-U-4500K**

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: P311430
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-L82765-S-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 4500K 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: 3666.0 lumens
Efficiency: N/A
Efficacy: 110.1 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

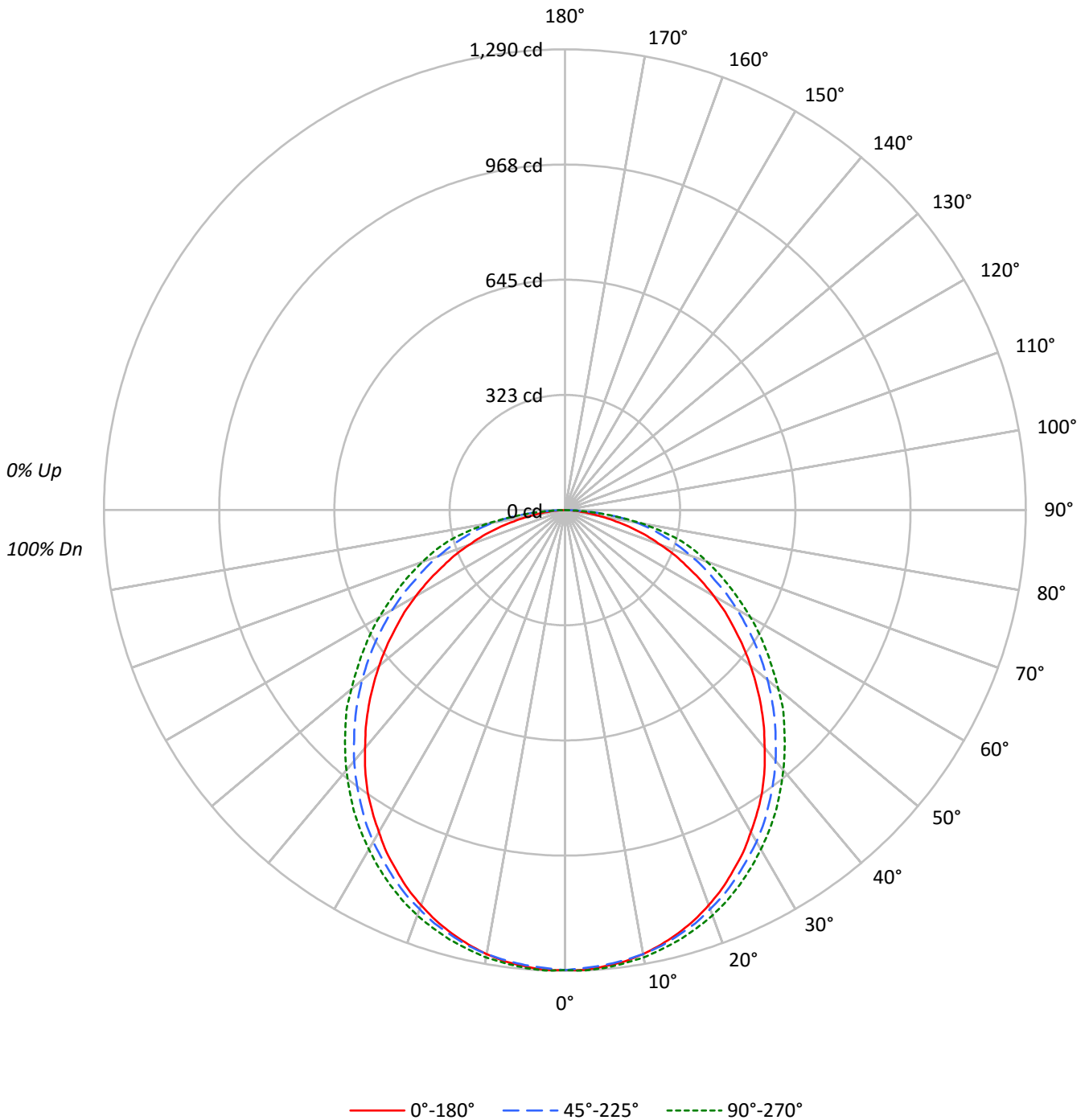
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1733	1733	1733
5°	1732	1727	1738
10°	1725	1725	1737
15°	1708	1716	1734
20°	1686	1702	1729
25°	1654	1685	1718
30°	1617	1666	1704
35°	1582	1639	1691
40°	1528	1612	1671
45°	1478	1580	1653
50°	1421	1550	1633
55°	1358	1521	1617
60°	1294	1498	1614
65°	1212	1472	1624
70°	1122	1480	1668
75°	1005	1507	1762
80°	812	1597	1723
85°	611	1402	1366



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.9	3.3
10°-20°	348.4	9.5
20°-30°	523.7	14.3
30°-40°	623.8	17.0
40°-50°	638.4	17.4
50°-60°	574.8	15.7
60°-70°	451.4	12.3
70°-80°	292.9	8.0
80°-90°	90.6	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°	994.0	27.1
0°-40°	1617.8	44.1
0°-60°	2831.0	77.2
0°-90°	3666.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3666.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1288	1288	1288	1288	1288	
5°	1282	1284	1279	1286	1287	122
15°	1226	1230	1232	1242	1245	346
25°	1114	1124	1135	1154	1158	513
35°	963	975	998	1022	1029	601
45°	777	795	830	862	869	599
55°	579	604	649	682	689	519
65°	381	410	462	501	510	379
75°	193	231	290	330	339	205
85°	40	73	91	88	88	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1287.9	1287.9	1287.9	1287.9	1287.9
2.5°	1289.1	1289.1	1283.2	1289.1	1290.2
5°	1282.1	1284.4	1278.6	1285.6	1286.7
7.5°	1275.1	1275.1	1271.6	1278.6	1279.7
10°	1262.3	1263.4	1262.3	1270.4	1271.6
12.5°	1246.0	1248.3	1249.5	1257.6	1258.8
15°	1226.2	1229.7	1232.0	1242.5	1244.8
17.5°	1204.0	1207.5	1213.4	1225.0	1227.3
20°	1177.3	1181.9	1188.9	1204.0	1207.5
22.5°	1148.2	1152.8	1164.5	1178.4	1184.3
25°	1114.4	1123.7	1135.3	1154.0	1157.5
27.5°	1080.6	1088.8	1103.9	1123.7	1128.4
30°	1041.0	1053.8	1072.5	1092.3	1096.9
32.5°	1002.6	1015.4	1037.5	1058.5	1064.3
35°	963.0	974.7	997.9	1022.4	1029.4
37.5°	917.6	932.7	958.3	982.8	989.8
40°	869.8	888.5	917.6	943.2	951.4
42.5°	824.4	844.2	873.3	901.3	910.6
45°	776.7	795.3	830.3	861.7	868.7
47.5°	727.8	748.7	786.0	817.4	829.1
50°	678.9	701.0	740.6	773.2	780.2
52.5°	630.0	653.3	695.2	730.1	733.6
55°	578.7	604.4	648.6	682.4	689.4
57.5°	532.2	554.3	602.0	637.0	645.1
60°	480.9	505.4	556.6	589.2	599.7
62.5°	432.0	457.6	511.2	543.8	553.1
65°	380.8	409.9	462.3	500.7	510.0
67.5°	336.5	364.5	420.4	457.6	466.9
70°	285.3	316.7	376.1	414.5	423.9
72.5°	241.0	273.6	333.0	370.3	384.3
75°	193.3	230.6	289.9	329.5	338.9
77.5°	146.7	189.8	250.4	280.6	280.6
80°	104.8	150.2	206.1	220.1	222.4
82.5°	68.7	113.0	152.5	151.4	151.4
85°	39.6	73.4	90.8	88.5	88.5
87.5°	15.1	30.3	32.6	32.6	31.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)