

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: P311429

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-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: P311429
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 3603.0 lumens
Efficiency: N/A
Efficacy: 108.9 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

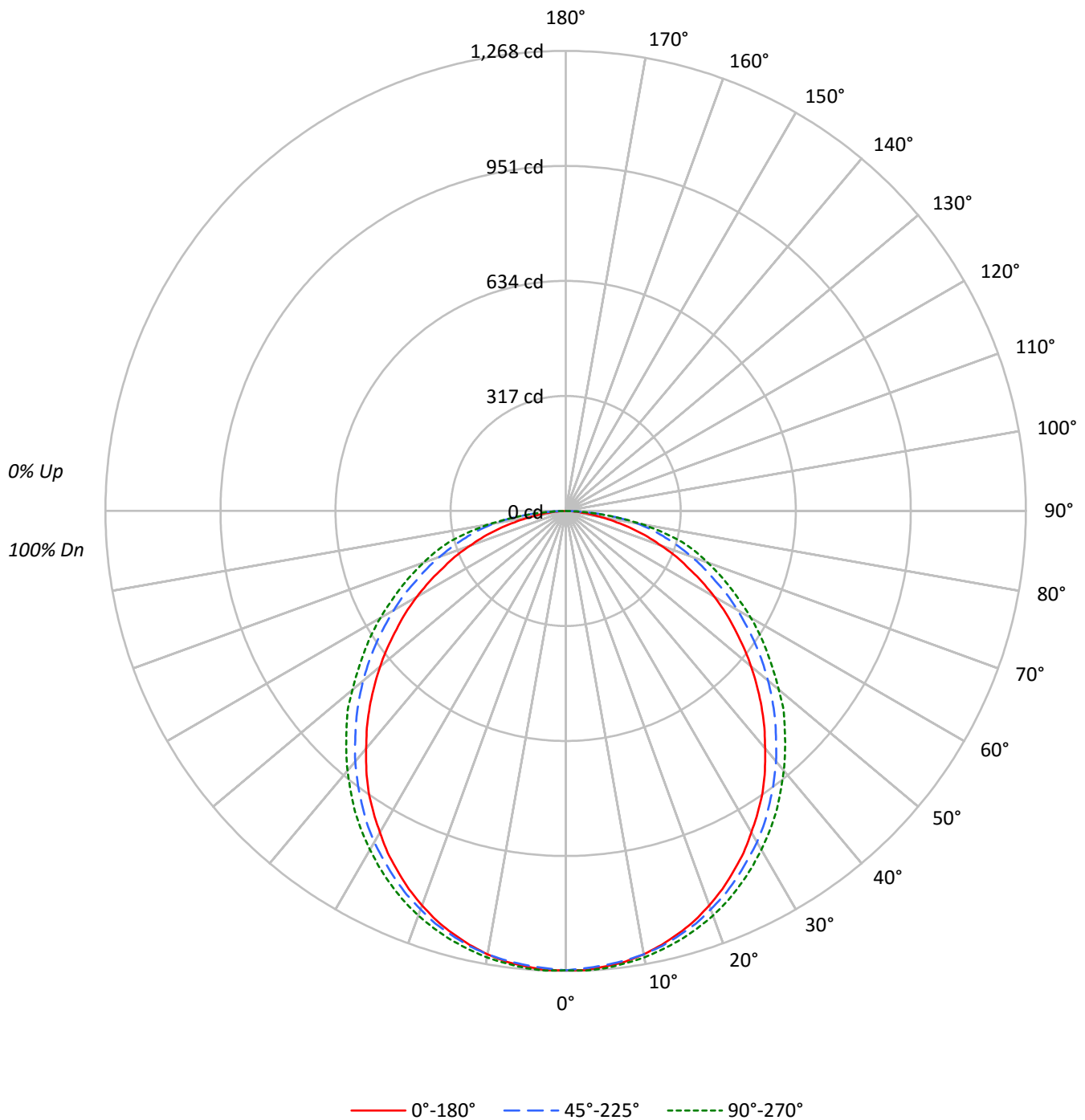
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1703	1703	1703
5°	1702	1697	1708
10°	1695	1695	1707
15°	1679	1687	1704
20°	1657	1673	1699
25°	1626	1656	1689
30°	1590	1638	1675
35°	1555	1611	1662
40°	1502	1584	1642
45°	1452	1553	1625
50°	1397	1524	1605
55°	1334	1495	1589
60°	1272	1472	1586
65°	1191	1446	1596
70°	1103	1454	1639
75°	988	1482	1731
80°	798	1570	1694
85°	601	1379	1343



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.8	3.3
10°-20°	342.4	9.5
20°-30°	514.7	14.3
30°-40°	613.1	17.0
40°-50°	627.5	17.4
50°-60°	564.9	15.7
60°-70°	443.6	12.3
70°-80°	287.9	8.0
80°-90°	89.1	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°	976.9	27.1
0°-40°	1590.0	44.1
0°-60°	2782.4	77.2
0°-90°	3603.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3603.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1266	1266	1266	1266	1266	
5°	1260	1262	1257	1264	1265	120
15°	1205	1208	1211	1221	1223	340
25°	1095	1104	1116	1134	1138	505
35°	946	958	981	1005	1012	590
45°	763	782	816	847	854	589
55°	569	594	638	671	678	510
65°	374	403	454	492	501	373
75°	190	227	285	324	333	201
85°	39	72	89	87	87	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1265.8	1265.8	1265.8	1265.8	1265.8
2.5°	1266.9	1266.9	1261.2	1266.9	1268.0
5°	1260.0	1262.3	1256.6	1263.5	1264.6
7.5°	1253.2	1253.2	1249.7	1256.6	1257.7
10°	1240.6	1241.7	1240.6	1248.6	1249.7
12.5°	1224.6	1226.8	1228.0	1236.0	1237.1
15°	1205.1	1208.5	1210.8	1221.1	1223.4
17.5°	1183.4	1186.8	1192.5	1204.0	1206.2
20°	1157.0	1161.6	1168.5	1183.4	1186.8
22.5°	1128.4	1133.0	1144.4	1158.2	1163.9
25°	1095.2	1104.4	1115.8	1134.1	1137.6
27.5°	1062.0	1070.1	1084.9	1104.4	1109.0
30°	1023.1	1035.7	1054.0	1073.5	1078.1
32.5°	985.4	998.0	1019.7	1040.3	1046.0
35°	946.5	957.9	980.8	1004.8	1011.7
37.5°	901.8	916.7	941.9	965.9	972.8
40°	854.9	873.2	901.8	927.0	935.0
42.5°	810.3	829.7	858.3	885.8	895.0
45°	763.3	781.7	816.0	846.9	853.8
47.5°	715.3	735.9	772.5	803.4	814.8
50°	667.2	689.0	727.9	759.9	766.8
52.5°	619.1	642.0	683.2	717.6	721.0
55°	568.8	594.0	637.5	670.6	677.5
57.5°	523.0	544.8	591.7	626.0	634.0
60°	472.7	496.7	547.0	579.1	589.4
62.5°	424.6	449.8	502.4	534.5	543.6
65°	374.2	402.8	454.3	492.1	501.3
67.5°	330.7	358.2	413.1	449.8	458.9
70°	280.4	311.3	369.7	407.4	416.6
72.5°	236.9	268.9	327.3	363.9	377.7
75°	190.0	226.6	285.0	323.9	333.0
77.5°	144.2	186.5	246.1	275.8	275.8
80°	103.0	147.6	202.6	216.3	218.6
82.5°	67.5	111.0	149.9	148.8	148.8
85°	38.9	72.1	89.3	87.0	87.0
87.5°	14.9	29.8	32.0	32.0	30.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)