

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: P311411

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP125-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: P311411
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-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 3793.0 lumens
Efficiency: N/A
Efficacy: 114.6 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

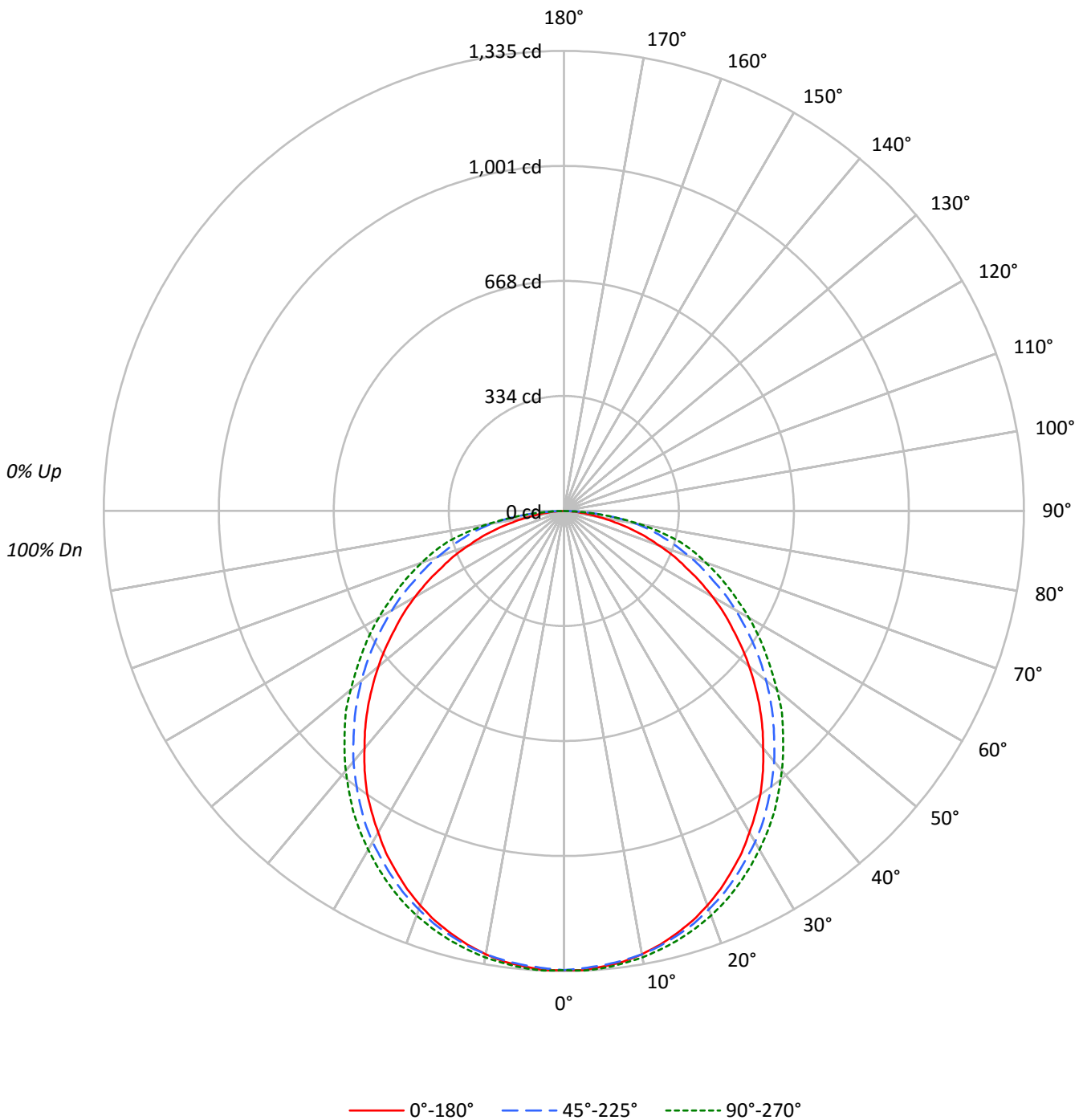
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1793	1793	1793
5°	1792	1787	1798
10°	1784	1784	1797
15°	1767	1776	1794
20°	1744	1761	1789
25°	1712	1744	1778
30°	1673	1724	1763
35°	1637	1696	1749
40°	1581	1668	1729
45°	1529	1635	1710
50°	1470	1604	1690
55°	1405	1574	1673
60°	1339	1550	1670
65°	1254	1523	1680
70°	1161	1531	1725
75°	1040	1560	1823
80°	840	1652	1783
85°	633	1451	1414



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	3.3
10°-20°	360.5	9.5
20°-30°	541.8	14.3
30°-40°	645.4	17.0
40°-50°	660.6	17.4
50°-60°	594.7	15.7
60°-70°	467.0	12.3
70°-80°	303.1	8.0
80°-90°	93.7	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°	1028.4	27.1
0°-40°	1673.9	44.1
0°-60°	2929.1	77.2
0°-90°	3793.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3793.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1332	1332	1332	1332	1332	
5°	1326	1329	1323	1330	1331	126
15°	1269	1272	1275	1286	1288	358
25°	1153	1163	1175	1194	1198	531
35°	996	1008	1032	1058	1065	622
45°	804	823	859	892	899	620
55°	599	625	671	706	713	537
65°	394	424	478	518	528	392
75°	200	238	300	341	351	212
85°	41	76	94	92	92	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1332.5	1332.5	1332.5	1332.5	1332.5
2.5°	1333.7	1333.7	1327.7	1333.7	1334.9
5°	1326.5	1328.9	1322.9	1330.1	1331.3
7.5°	1319.3	1319.3	1315.6	1322.9	1324.1
10°	1306.0	1307.2	1306.0	1314.4	1315.6
12.5°	1289.1	1291.5	1292.7	1301.2	1302.4
15°	1268.7	1272.3	1274.7	1285.5	1287.9
17.5°	1245.8	1249.4	1255.4	1267.4	1269.9
20°	1218.0	1222.9	1230.1	1245.8	1249.4
22.5°	1187.9	1192.7	1204.8	1219.3	1225.3
25°	1153.0	1162.6	1174.7	1194.0	1197.6
27.5°	1118.1	1126.5	1142.1	1162.6	1167.4
30°	1077.1	1090.3	1109.6	1130.1	1134.9
32.5°	1037.3	1050.6	1073.5	1095.2	1101.2
35°	996.4	1008.4	1032.5	1057.8	1065.0
37.5°	949.4	965.0	991.5	1016.8	1024.1
40°	900.0	919.3	949.4	975.9	984.3
42.5°	853.0	873.5	903.6	932.5	942.2
45°	803.6	822.9	859.0	891.5	898.8
47.5°	753.0	774.7	813.2	845.8	857.8
50°	702.4	725.3	766.3	800.0	807.2
52.5°	651.8	675.9	719.3	755.4	759.0
55°	598.8	625.3	671.1	706.0	713.2
57.5°	550.6	573.5	622.9	659.0	667.5
60°	497.6	522.9	575.9	609.6	620.5
62.5°	447.0	473.5	528.9	562.6	572.3
65°	394.0	424.1	478.3	518.1	527.7
67.5°	348.2	377.1	434.9	473.5	483.1
70°	295.2	327.7	389.1	428.9	438.5
72.5°	249.4	283.1	344.6	383.1	397.6
75°	200.0	238.5	300.0	341.0	350.6
77.5°	151.8	196.4	259.0	290.4	290.4
80°	108.4	155.4	213.2	227.7	230.1
82.5°	71.1	116.9	157.8	156.6	156.6
85°	41.0	75.9	94.0	91.6	91.6
87.5°	15.7	31.3	33.7	33.7	32.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)