

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: P311387

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-5500K**

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: P311387
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: 24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5500K 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: 3776.0 lumens
Efficiency: N/A
Efficacy: 120.6 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

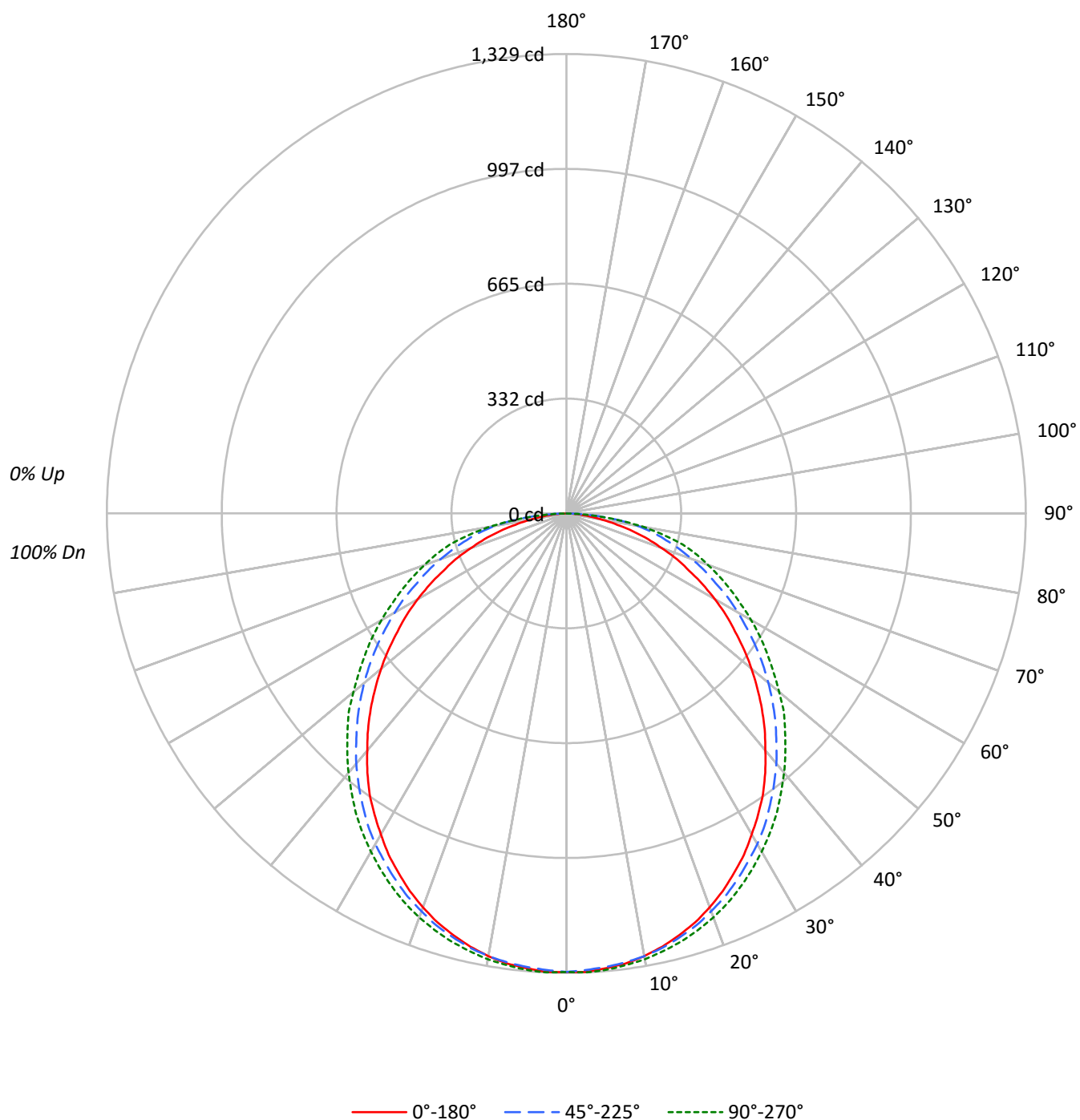
Input Watts (W): 31.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1785	1785	1785
5°	1784	1779	1790
10°	1776	1776	1789
15°	1759	1768	1786
20°	1736	1753	1781
25°	1704	1736	1770
30°	1666	1716	1755
35°	1629	1688	1742
40°	1574	1660	1721
45°	1522	1627	1703
50°	1464	1597	1682
55°	1398	1567	1666
60°	1333	1543	1662
65°	1249	1516	1672
70°	1156	1524	1718
75°	1035	1552	1814
80°	836	1645	1775
85°	630	1445	1408



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.6	3.3
10°-20°	358.8	9.5
20°-30°	539.4	14.3
30°-40°	642.5	17.0
40°-50°	657.6	17.4
50°-60°	592.0	15.7
60°-70°	464.9	12.3
70°-80°	301.8	8.0
80°-90°	93.3	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°	1023.8	27.1
0°-40°	1666.4	44.1
0°-60°	2916.0	77.2
0°-90°	3776.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3776.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1326	1326	1326	1326	1326	
5°	1320	1323	1317	1324	1325	125
15°	1263	1267	1269	1280	1282	356
25°	1148	1157	1169	1189	1192	529
35°	992	1004	1028	1053	1060	619
45°	800	819	855	888	895	617
55°	596	622	668	703	710	534
65°	392	422	476	516	525	390
75°	199	238	299	339	349	211
85°	41	76	94	91	91	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1326.5	1326.5	1326.5	1326.5	1326.5
2.5°	1327.7	1327.7	1321.7	1327.7	1328.9
5°	1320.5	1322.9	1316.9	1324.1	1325.3
7.5°	1313.3	1313.3	1309.7	1316.9	1318.1
10°	1300.1	1301.3	1300.1	1308.5	1309.7
12.5°	1283.4	1285.8	1287.0	1295.3	1296.5
15°	1263.0	1266.6	1269.0	1279.8	1282.2
17.5°	1240.2	1243.8	1249.8	1261.8	1264.2
20°	1212.6	1217.4	1224.6	1240.2	1243.8
22.5°	1182.6	1187.4	1199.4	1213.8	1219.8
25°	1147.8	1157.4	1169.4	1188.6	1192.2
27.5°	1113.0	1121.4	1137.0	1157.4	1162.2
30°	1072.3	1085.5	1104.6	1125.0	1129.8
32.5°	1032.7	1045.9	1068.7	1090.3	1096.2
35°	991.9	1003.9	1027.9	1053.1	1060.3
37.5°	945.1	960.7	987.1	1012.3	1019.5
40°	895.9	915.1	945.1	971.5	979.9
42.5°	849.2	869.6	899.5	928.3	937.9
45°	800.0	819.2	855.2	887.6	894.8
47.5°	749.6	771.2	809.6	842.0	854.0
50°	699.2	722.0	762.8	796.4	803.6
52.5°	648.9	672.9	716.0	752.0	755.6
55°	596.1	622.5	668.1	702.8	710.0
57.5°	548.1	570.9	620.1	656.1	664.5
60°	495.4	520.5	573.3	606.9	617.7
62.5°	445.0	471.4	526.5	560.1	569.7
65°	392.2	422.2	476.2	515.7	525.3
67.5°	346.6	375.4	433.0	471.4	481.0
70°	293.9	326.2	387.4	427.0	436.6
72.5°	248.3	281.9	343.0	381.4	395.8
75°	199.1	237.5	298.6	339.4	349.0
77.5°	151.1	195.5	257.9	289.1	289.1
80°	107.9	154.7	212.3	226.7	229.1
82.5°	70.8	116.3	157.1	155.9	155.9
85°	40.8	75.6	93.6	91.2	91.2
87.5°	15.6	31.2	33.6	33.6	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)