

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: P311351

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CA08-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: P311351  
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-CA08-W2A-U-5500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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**

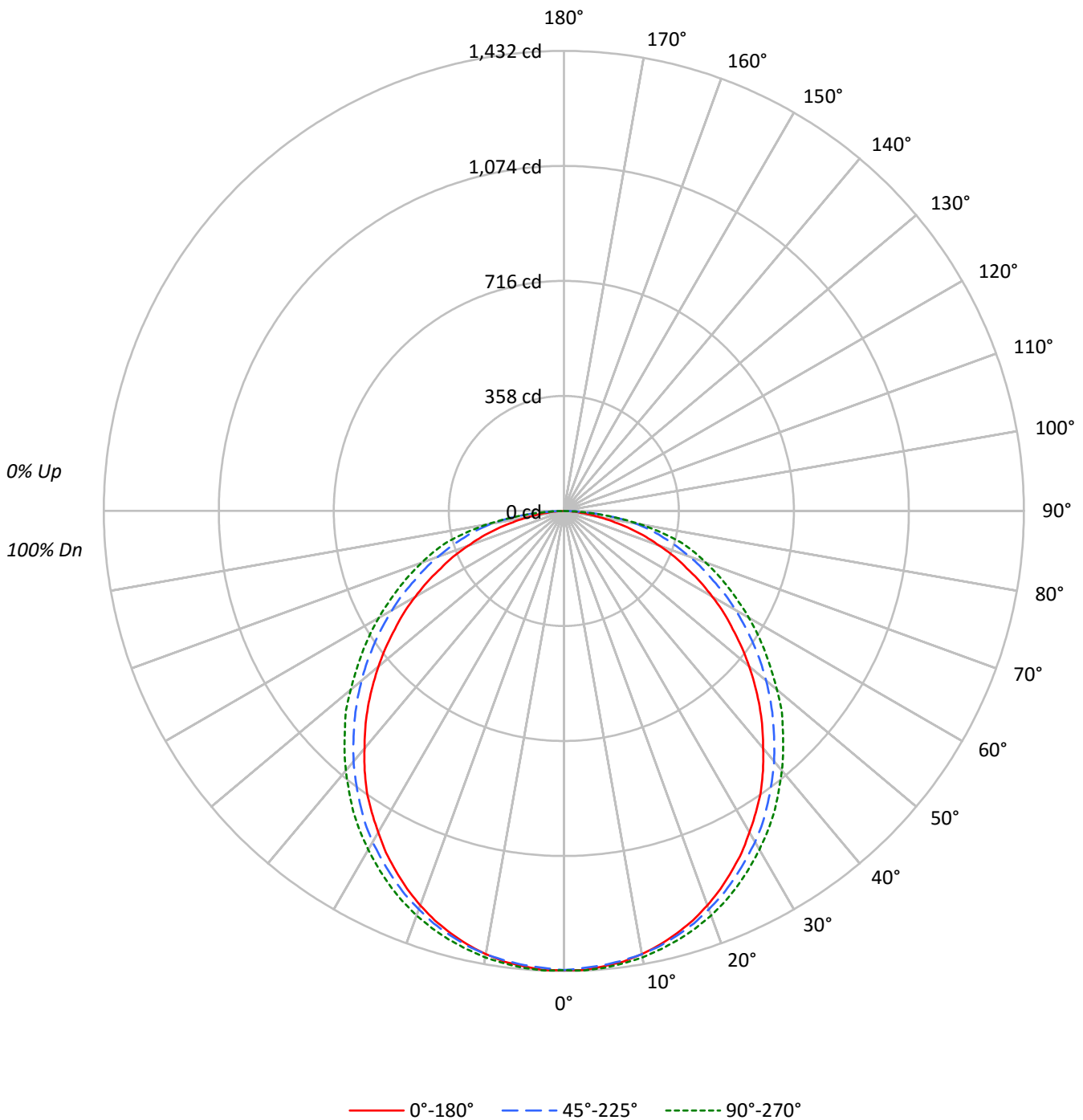
Lumens per Lamp: N/A  
Luminaire Lumens: 4068.0 lumens  
Efficiency: N/A  
Efficacy: 130.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	1923	1923	1923
5°	1922	1916	1928
10°	1914	1914	1928
15°	1895	1904	1924
20°	1871	1889	1919
25°	1836	1870	1907
30°	1795	1849	1891
35°	1755	1819	1876
40°	1695	1788	1854
45°	1640	1753	1834
50°	1577	1720	1812
55°	1506	1688	1795
60°	1436	1662	1791
65°	1345	1633	1802
70°	1245	1642	1850
75°	1115	1672	1955
80°	901	1772	1912
85°	678	1556	1516



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.3	3.3
10°-20°	386.6	9.5
20°-30°	581.1	14.3
30°-40°	692.2	17.0
40°-50°	708.4	17.4
50°-60°	637.8	15.7
60°-70°	500.9	12.3
70°-80°	325.1	8.0
80°-90°	100.5	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°	1103.0	27.1
0°-40°	1795.2	44.1
0°-60°	3141.5	77.2
0°-90°	4068.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4068.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1429	1429	1429	1429	1429	
5°	1423	1425	1419	1426	1428	135
15°	1361	1364	1367	1379	1381	384
25°	1237	1247	1260	1280	1284	570
35°	1069	1082	1107	1134	1142	667
45°	862	882	921	956	964	664
55°	642	671	720	757	765	576
65°	422	455	513	556	566	421
75°	214	256	322	366	376	227
85°	44	81	101	98	98	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1429.1	1429.1	1429.1	1429.1	1429.1
2.5°	1430.4	1430.4	1423.9	1430.4	1431.7
5°	1422.7	1425.2	1418.8	1426.5	1427.8
7.5°	1414.9	1414.9	1411.0	1418.8	1420.1
10°	1400.7	1402.0	1400.7	1409.7	1411.0
12.5°	1382.6	1385.2	1386.5	1395.5	1396.8
15°	1360.6	1364.5	1367.1	1378.7	1381.3
17.5°	1336.1	1340.0	1346.4	1359.3	1361.9
20°	1306.4	1311.5	1319.3	1336.1	1340.0
22.5°	1274.1	1279.2	1292.1	1307.7	1314.1
25°	1236.6	1246.9	1259.8	1280.5	1284.4
27.5°	1199.1	1208.2	1225.0	1246.9	1252.1
30°	1155.2	1169.4	1190.1	1212.0	1217.2
32.5°	1112.5	1126.8	1151.3	1174.6	1181.0
35°	1068.6	1081.5	1107.4	1134.5	1142.3
37.5°	1018.2	1035.0	1063.4	1090.6	1098.3
40°	965.2	985.9	1018.2	1046.6	1055.7
42.5°	914.8	936.8	969.1	1000.1	1010.5
45°	861.9	882.5	921.3	956.2	963.9
47.5°	807.6	830.9	872.2	907.1	920.0
50°	753.3	777.9	821.8	858.0	865.7
52.5°	699.1	724.9	771.4	810.2	814.1
55°	642.2	670.6	719.7	757.2	765.0
57.5°	590.5	615.1	668.0	706.8	715.8
60°	533.7	560.8	617.6	653.8	665.5
62.5°	479.4	507.8	567.3	603.4	613.8
65°	422.5	454.8	513.0	555.6	566.0
67.5°	373.4	404.4	466.5	507.8	518.2
70°	316.6	351.5	417.4	460.0	470.3
72.5°	267.5	303.7	369.6	410.9	426.4
75°	214.5	255.8	321.7	365.7	376.0
77.5°	162.8	210.6	277.8	311.4	311.4
80°	116.3	166.7	228.7	244.2	246.8
82.5°	76.2	125.3	169.3	168.0	168.0
85°	43.9	81.4	100.8	98.2	98.2
87.5°	16.8	33.6	36.2	36.2	34.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)