

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: P310677

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CA08-W2A-U-5700K**

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: P310677  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
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-CA08-W2A-U-5700K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5700K 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**

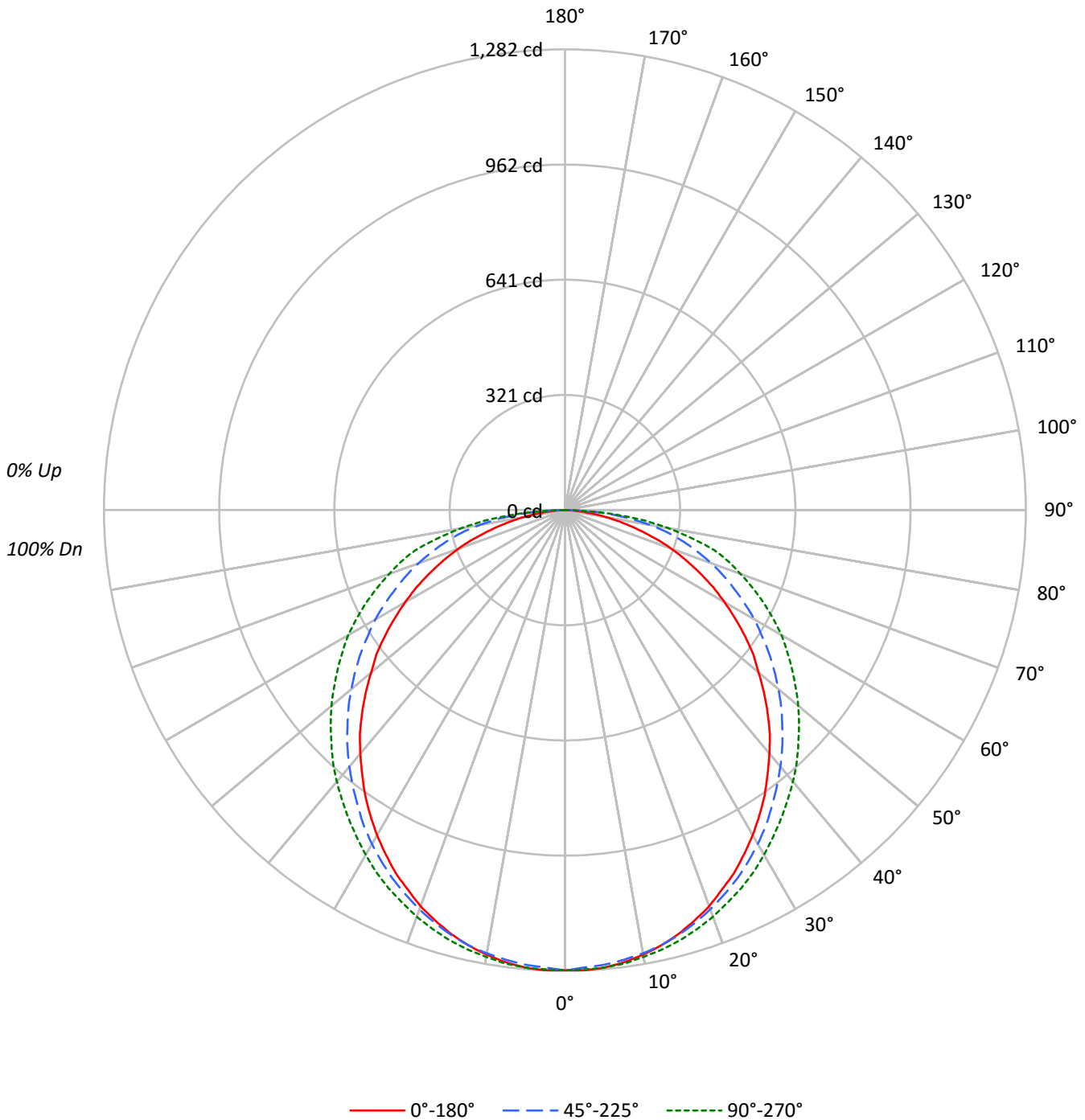
Lumens per Lamp: N/A  
Luminaire Lumens: 3882.0 lumens  
Efficiency: N/A  
Efficacy: 124.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1722	1722	1722
5°	1726	1715	1726
10°	1716	1710	1724
15°	1701	1704	1726
20°	1680	1693	1724
25°	1654	1681	1723
30°	1623	1667	1721
35°	1591	1650	1722
40°	1554	1638	1733
45°	1517	1627	1747
50°	1472	1623	1774
55°	1435	1625	1810
60°	1379	1639	1872
65°	1316	1656	1940
70°	1246	1707	2047
75°	1111	1781	2236
80°	948	1886	2285
85°	676	1870	2188



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.2	3.1
10°-20°	346.4	8.9
20°-30°	523.3	13.5
30°-40°	630.7	16.2
40°-50°	662.1	17.1
50°-60°	619.4	16.0
60°-70°	511.5	13.2
70°-80°	348.6	9.0
80°-90°	118.9	3.1
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°	990.9	25.5
0°-40°	1621.5	41.8
0°-60°	2903.0	74.8
0°-90°	3882.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3882.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1280	1280	1280	1280	1280	
5°	1278	1276	1270	1278	1278	121
15°	1221	1222	1224	1236	1239	344
25°	1114	1119	1132	1154	1160	513
35°	969	979	1005	1038	1048	605
45°	797	814	855	902	918	615
55°	612	636	693	750	772	546
65°	413	448	520	586	609	410
75°	214	263	343	407	430	228
85°	44	86	121	136	142	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1280.2	1280.2	1280.2	1280.2	1280.2
2.5°	1281.5	1280.2	1273.8	1280.2	1279.0
5°	1277.7	1276.4	1269.9	1277.7	1277.7
7.5°	1268.7	1268.7	1262.2	1271.2	1272.5
10°	1255.8	1255.8	1251.9	1262.2	1262.2
12.5°	1240.3	1240.3	1240.3	1250.6	1251.9
15°	1221.0	1222.3	1223.6	1236.5	1239.0
17.5°	1197.8	1200.4	1204.3	1219.7	1222.3
20°	1173.3	1175.9	1182.4	1200.4	1204.3
22.5°	1142.4	1148.9	1157.9	1178.5	1182.4
25°	1114.1	1119.3	1132.1	1154.0	1160.5
27.5°	1079.3	1087.1	1103.8	1127.0	1136.0
30°	1044.5	1052.3	1072.9	1099.9	1107.7
32.5°	1007.2	1018.8	1040.7	1069.0	1078.0
35°	968.6	978.9	1004.6	1038.1	1048.4
37.5°	926.1	940.2	968.6	1004.6	1017.5
40°	884.8	900.3	932.5	971.1	986.6
42.5°	843.6	859.1	895.1	938.9	954.4
45°	797.3	814.0	855.2	901.6	918.3
47.5°	750.9	771.5	816.6	865.5	883.6
50°	703.2	726.4	775.4	826.9	847.5
52.5°	660.7	682.6	734.1	789.5	808.8
55°	611.8	636.3	692.9	749.6	771.5
57.5°	561.6	588.6	649.1	711.0	732.9
60°	512.6	542.2	609.2	671.0	695.5
62.5°	465.0	494.6	564.1	628.5	653.0
65°	413.4	448.2	520.3	586.0	609.2
67.5°	364.5	401.8	477.8	542.2	565.4
70°	316.8	352.9	434.0	497.2	520.3
72.5°	265.3	306.5	387.7	453.4	477.8
75°	213.8	262.7	342.6	407.0	430.2
77.5°	166.1	216.4	296.2	349.0	360.6
80°	122.4	173.9	243.4	280.8	294.9
82.5°	78.6	130.1	185.5	212.5	224.1
85°	43.8	86.3	121.1	136.5	141.7
87.5°	18.0	37.4	48.9	55.4	55.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)