

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: P310312

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-3500K**

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: P310312  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET  
Light Source: (336) 3500K 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**

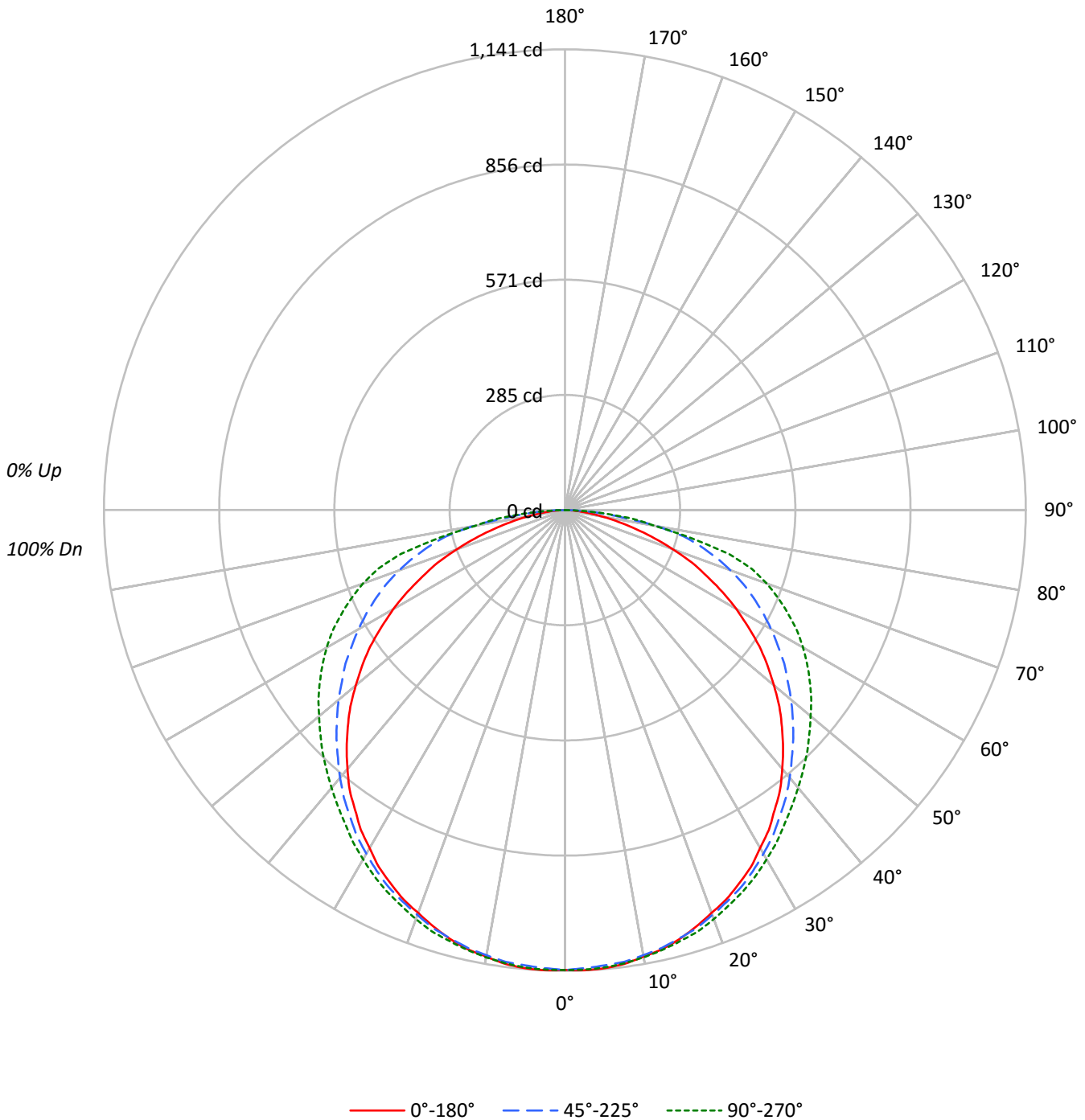
Lumens per Lamp: N/A  
Luminaire Lumens: 3622.0 lumens  
Efficiency: N/A  
Efficacy: 75.8 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1533	1533	1533
5°	1538	1529	1536
10°	1534	1529	1536
15°	1532	1529	1539
20°	1520	1528	1543
25°	1515	1531	1547
30°	1502	1527	1552
35°	1487	1523	1558
40°	1470	1521	1578
45°	1446	1521	1614
50°	1414	1531	1662
55°	1378	1555	1736
60°	1320	1586	1832
65°	1236	1642	1945
70°	1124	1718	2092
75°	952	1812	2185
80°	752	1823	1768
85°	554	1386	1553



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.0	3.0
10°-20°	311.0	8.6
20°-30°	475.5	13.1
30°-40°	581.3	16.0
40°-50°	619.6	17.1
50°-60°	592.4	16.4
60°-70°	501.8	13.9
70°-80°	337.3	9.3
80°-90°	95.1	2.6
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°	894.5	24.7
0°-40°	1475.8	40.7
0°-60°	2687.8	74.2
0°-90°	3622.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3622.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1139	1139	1139	1139	1139	
5°	1139	1137	1132	1137	1137	108
15°	1100	1100	1098	1107	1105	310
25°	1020	1024	1031	1040	1042	470
35°	906	913	927	945	949	567
45°	760	772	800	834	848	586
55°	588	609	663	715	740	523
65°	388	428	516	584	611	385
75°	183	250	348	408	420	196
85°	36	74	90	97	101	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1139.0	1139.0	1139.0	1139.0	1139.0
2.5°	1140.8	1140.8	1135.4	1139.0	1139.0
5°	1139.0	1137.2	1131.8	1137.2	1137.2
7.5°	1133.6	1131.8	1128.2	1133.6	1131.8
10°	1122.8	1122.8	1119.3	1124.6	1124.6
12.5°	1113.9	1112.1	1110.3	1117.5	1115.7
15°	1099.5	1099.5	1097.7	1106.7	1104.9
17.5°	1081.5	1083.3	1085.1	1092.3	1094.1
20°	1061.8	1065.4	1067.2	1077.9	1077.9
22.5°	1043.8	1045.6	1049.2	1060.0	1060.0
25°	1020.4	1024.0	1031.2	1040.2	1042.0
27.5°	997.1	998.9	1007.9	1020.4	1022.2
30°	966.5	971.9	982.7	997.1	998.9
32.5°	939.6	945.0	957.6	971.9	975.5
35°	905.5	912.6	927.0	945.0	948.6
37.5°	874.9	880.3	898.3	918.0	923.4
40°	837.2	848.0	865.9	889.3	898.3
42.5°	799.5	810.2	831.8	862.3	873.1
45°	759.9	772.5	799.5	833.6	848.0
47.5°	720.4	734.8	765.3	804.9	821.0
50°	675.5	693.5	731.2	776.1	794.1
52.5°	632.4	653.9	695.3	745.6	768.9
55°	587.5	609.0	662.9	715.0	740.2
57.5°	537.2	565.9	625.2	684.5	711.4
60°	490.5	517.4	589.3	653.9	680.9
62.5°	440.2	476.1	553.3	621.6	648.6
65°	388.1	427.6	515.6	583.9	610.8
67.5°	341.3	384.5	477.9	546.2	573.1
70°	285.7	339.5	436.6	504.8	531.8
72.5°	233.6	292.8	393.4	459.9	485.1
75°	183.2	249.7	348.5	407.8	420.4
77.5°	136.5	206.6	301.8	327.0	318.0
80°	97.0	165.3	235.3	222.8	228.2
82.5°	62.9	125.8	145.5	165.3	170.7
85°	35.9	73.7	89.8	97.0	100.6
87.5°	16.2	26.9	35.9	35.9	34.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)