

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: P314085

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CP250-W2A-U-3000K**

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: P314085  
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: 24FCZ2-60HE-UNV-L83050-CP250-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET  
Light Source: (336) 3000K 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**

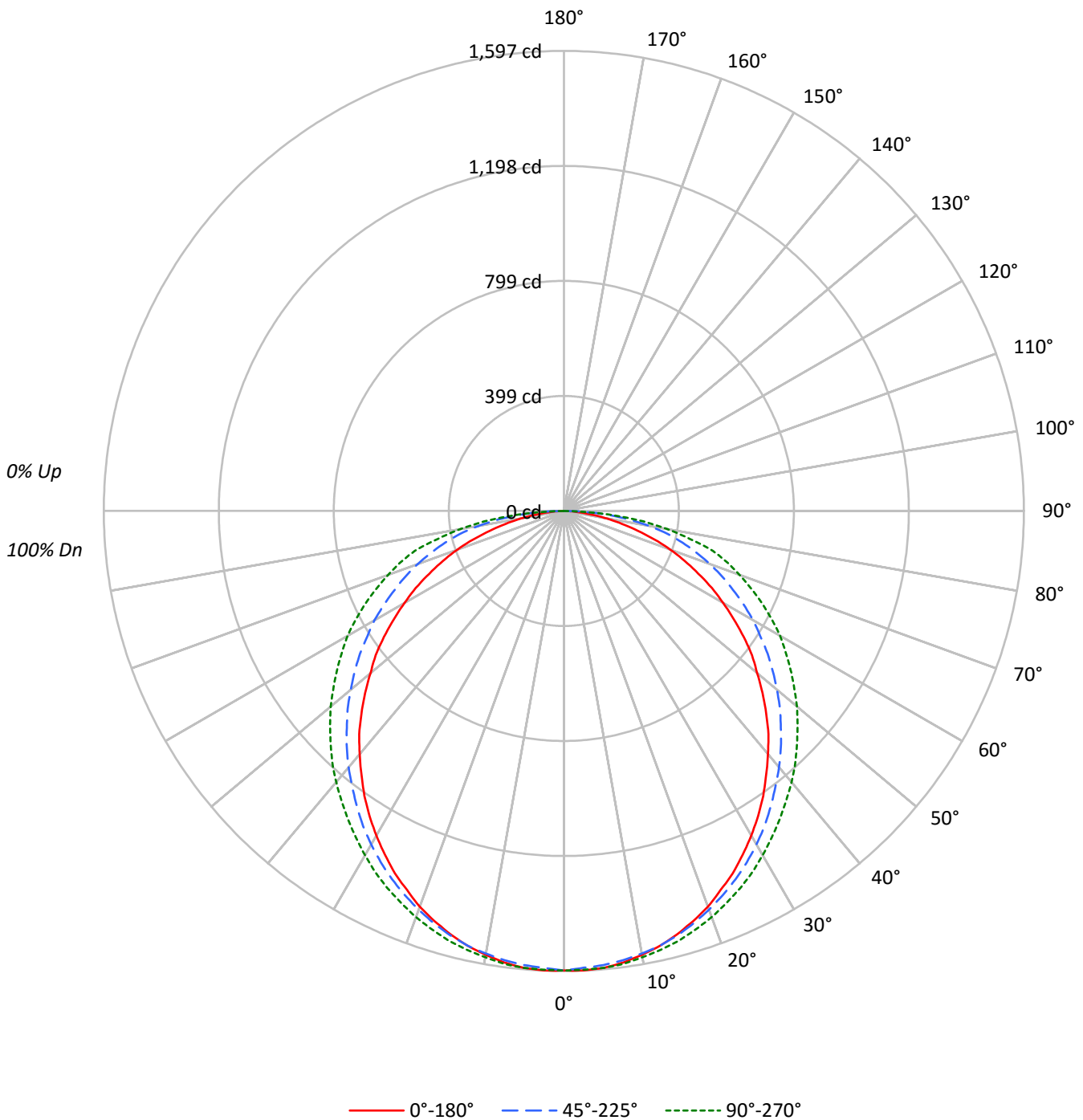
Lumens per Lamp: N/A  
Luminaire Lumens: 4837.0 lumens  
Efficiency: N/A  
Efficacy: 101.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	2146	2146	2146
5°	2150	2137	2150
10°	2138	2131	2149
15°	2119	2124	2150
20°	2093	2109	2148
25°	2061	2094	2147
30°	2022	2077	2144
35°	1982	2056	2146
40°	1936	2041	2159
45°	1890	2028	2177
50°	1834	2022	2210
55°	1788	2025	2255
60°	1719	2043	2332
65°	1640	2064	2417
70°	1553	2127	2551
75°	1385	2219	2786
80°	1182	2350	2848
85°	843	2330	2725



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.0	3.1
10°-20°	431.7	8.9
20°-30°	652.0	13.5
30°-40°	785.8	16.2
40°-50°	825.0	17.1
50°-60°	771.8	16.0
60°-70°	637.4	13.2
70°-80°	434.3	9.0
80°-90°	148.1	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°	1234.6	25.5
0°-40°	2020.4	41.8
0°-60°	3617.2	74.8
0°-90°	4837.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4837.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1595	1595	1595	1595	1595	
5°	1592	1590	1582	1592	1592	151
15°	1521	1523	1525	1541	1544	429
25°	1388	1395	1411	1438	1446	639
35°	1207	1220	1252	1294	1306	754
45°	993	1014	1066	1123	1144	766
55°	762	793	863	934	961	680
65°	515	558	648	730	759	511
75°	266	327	427	507	536	284
85°	55	108	151	170	176	68
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1595.2	1595.2	1595.2	1595.2	1595.2
2.5°	1596.8	1595.2	1587.2	1595.2	1593.6
5°	1592.0	1590.4	1582.4	1592.0	1592.0
7.5°	1580.8	1580.8	1572.7	1584.0	1585.6
10°	1564.7	1564.7	1559.9	1572.7	1572.7
12.5°	1545.5	1545.5	1545.5	1558.3	1559.9
15°	1521.4	1523.0	1524.6	1540.6	1543.8
17.5°	1492.5	1495.7	1500.5	1519.8	1523.0
20°	1462.0	1465.2	1473.2	1495.7	1500.5
22.5°	1423.5	1431.5	1442.7	1468.4	1473.2
25°	1388.2	1394.6	1410.6	1437.9	1446.0
27.5°	1344.8	1354.5	1375.3	1404.2	1415.5
30°	1301.5	1311.1	1336.8	1370.5	1380.2
32.5°	1255.0	1269.4	1296.7	1332.0	1343.2
35°	1206.8	1219.7	1251.8	1293.5	1306.3
37.5°	1153.9	1171.5	1206.8	1251.8	1267.8
40°	1102.5	1121.8	1161.9	1210.0	1229.3
42.5°	1051.2	1070.4	1115.4	1169.9	1189.2
45°	993.4	1014.3	1065.6	1123.4	1144.2
47.5°	935.6	961.3	1017.5	1078.4	1100.9
50°	876.2	905.1	966.1	1030.3	1056.0
52.5°	823.3	850.6	914.8	983.8	1007.8
55°	762.3	792.8	863.4	934.0	961.3
57.5°	699.7	733.4	808.8	885.9	913.1
60°	638.7	675.6	759.1	836.1	866.6
62.5°	579.3	616.3	702.9	783.2	813.6
65°	515.2	558.5	648.4	730.2	759.1
67.5°	454.2	500.7	595.4	675.6	704.5
70°	394.8	439.7	540.8	619.5	648.4
72.5°	330.6	381.9	483.1	564.9	595.4
75°	266.4	327.4	426.9	507.1	536.0
77.5°	207.0	269.6	369.1	434.9	449.4
80°	152.5	216.7	303.3	349.9	367.5
82.5°	97.9	162.1	231.1	264.8	279.2
85°	54.6	107.5	150.9	170.1	176.5
87.5°	22.5	46.5	61.0	69.0	69.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)