

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: P313742

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-RDP-CA08-W2A-U-4000K**

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: P313742  
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: 24FCZ2-70HE-UNV-L83050-RDP-CA08-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET  
Light Source: (336) 4000K 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: 4553.0 lumens  
Efficiency: N/A  
Efficacy: 77.2 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

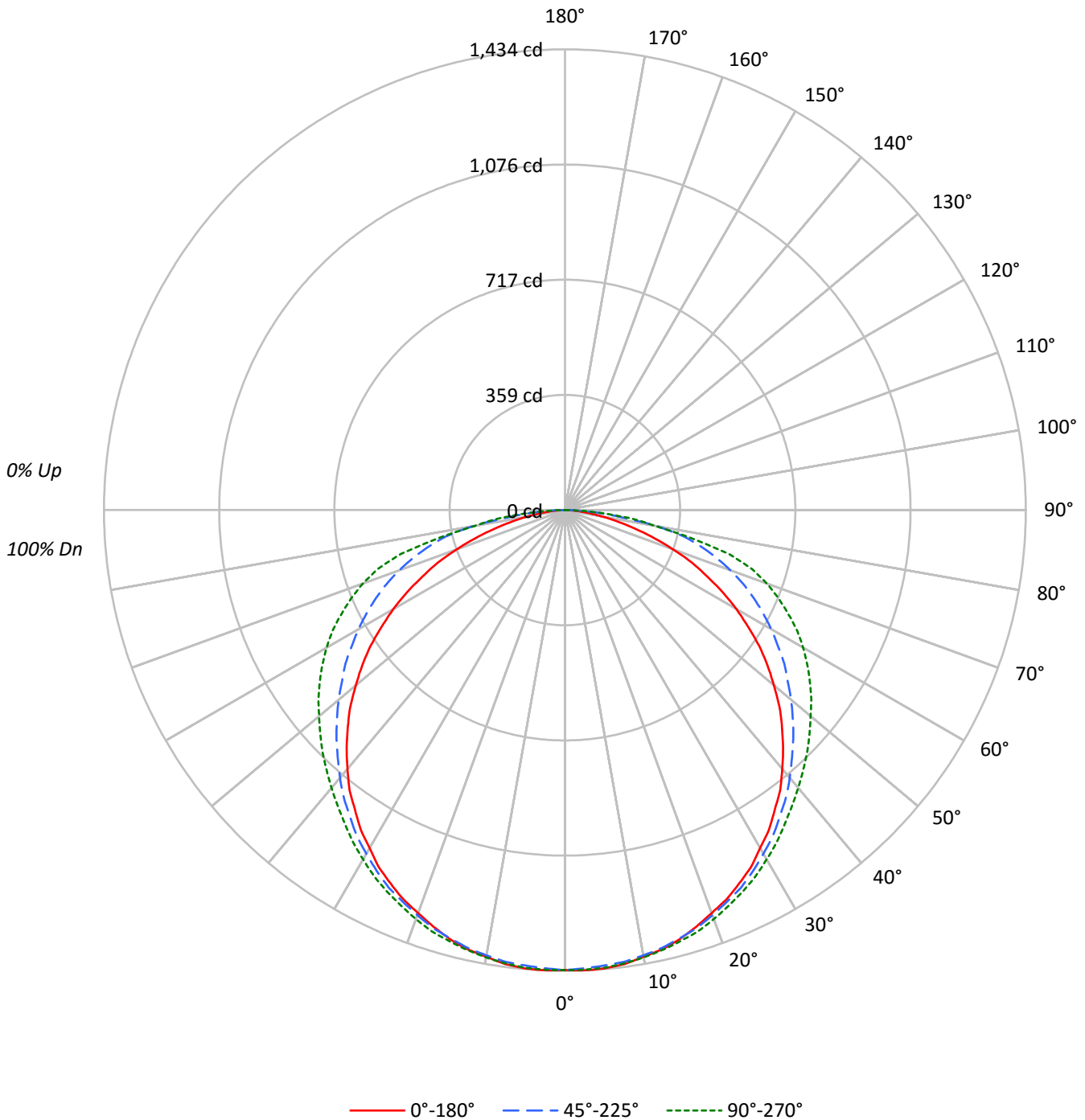
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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				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°	1926	1926	1926
5°	1934	1922	1931
10°	1928	1922	1931
15°	1925	1922	1935
20°	1911	1921	1940
25°	1904	1924	1945
30°	1888	1919	1951
35°	1870	1914	1959
40°	1848	1912	1983
45°	1818	1912	2028
50°	1777	1924	2089
55°	1732	1955	2183
60°	1659	1993	2303
65°	1553	2063	2444
70°	1413	2159	2630
75°	1198	2277	2747
80°	945	2292	2222
85°	698	1743	1953



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.8	3.0
10°-20°	390.9	8.6
20°-30°	597.7	13.1
30°-40°	730.7	16.0
40°-50°	778.8	17.1
50°-60°	744.6	16.4
60°-70°	630.8	13.9
70°-80°	424.0	9.3
80°-90°	119.6	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°	1124.4	24.7
0°-40°	1855.2	40.7
0°-60°	3378.6	74.2
0°-90°	4553.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4553.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1432	1432	1432	1432	1432	
5°	1432	1430	1423	1430	1430	136
15°	1382	1382	1380	1391	1389	390
25°	1283	1287	1296	1308	1310	591
35°	1138	1147	1165	1188	1192	713
45°	955	971	1005	1048	1066	737
55°	738	766	833	899	930	658
65°	488	538	648	734	768	484
75°	230	314	438	513	528	247
85°	45	93	113	122	126	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1431.8	1431.8	1431.8	1431.8	1431.8
2.5°	1434.0	1434.0	1427.3	1431.8	1431.8
5°	1431.8	1429.5	1422.8	1429.5	1429.5
7.5°	1425.0	1422.8	1418.2	1425.0	1422.8
10°	1411.5	1411.5	1406.9	1413.7	1413.7
12.5°	1400.2	1397.9	1395.7	1404.7	1402.4
15°	1382.1	1382.1	1379.8	1391.1	1388.9
17.5°	1359.5	1361.8	1364.0	1373.1	1375.3
20°	1334.7	1339.2	1341.5	1355.0	1355.0
22.5°	1312.1	1314.4	1318.9	1332.4	1332.4
25°	1282.7	1287.3	1296.3	1307.6	1309.8
27.5°	1253.4	1255.6	1266.9	1282.7	1285.0
30°	1215.0	1221.8	1235.3	1253.4	1255.6
32.5°	1181.1	1187.9	1203.7	1221.8	1226.3
35°	1138.2	1147.2	1165.3	1187.9	1192.4
37.5°	1099.8	1106.6	1129.2	1154.0	1160.8
40°	1052.4	1065.9	1088.5	1117.9	1129.2
42.5°	1005.0	1018.5	1045.6	1084.0	1097.6
45°	955.3	971.1	1005.0	1047.9	1065.9
47.5°	905.6	923.7	962.1	1011.7	1032.1
50°	849.1	871.7	919.1	975.6	998.2
52.5°	794.9	822.0	874.0	937.2	966.6
55°	738.5	765.6	833.3	898.8	930.4
57.5°	675.2	711.4	785.9	860.4	894.3
60°	616.5	650.4	740.7	822.0	855.9
62.5°	553.3	598.5	695.6	781.4	815.3
65°	487.8	537.5	648.1	734.0	767.8
67.5°	429.1	483.3	600.7	686.5	720.4
70°	359.1	426.8	548.8	634.6	668.5
72.5°	293.6	368.1	494.6	578.1	609.8
75°	230.4	313.9	438.1	512.6	528.5
77.5°	171.6	259.7	379.4	411.0	399.7
80°	122.0	207.8	295.8	280.0	286.8
82.5°	79.0	158.1	182.9	207.8	214.5
85°	45.2	92.6	112.9	122.0	126.5
87.5°	20.3	33.9	45.2	45.2	42.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)