

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: P309767

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP250-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: P309767  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
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-L82765-HRP-CP250-W2A-U-5500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB 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: 4719.0 lumens  
Efficiency: N/A  
Efficacy: 79.6 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

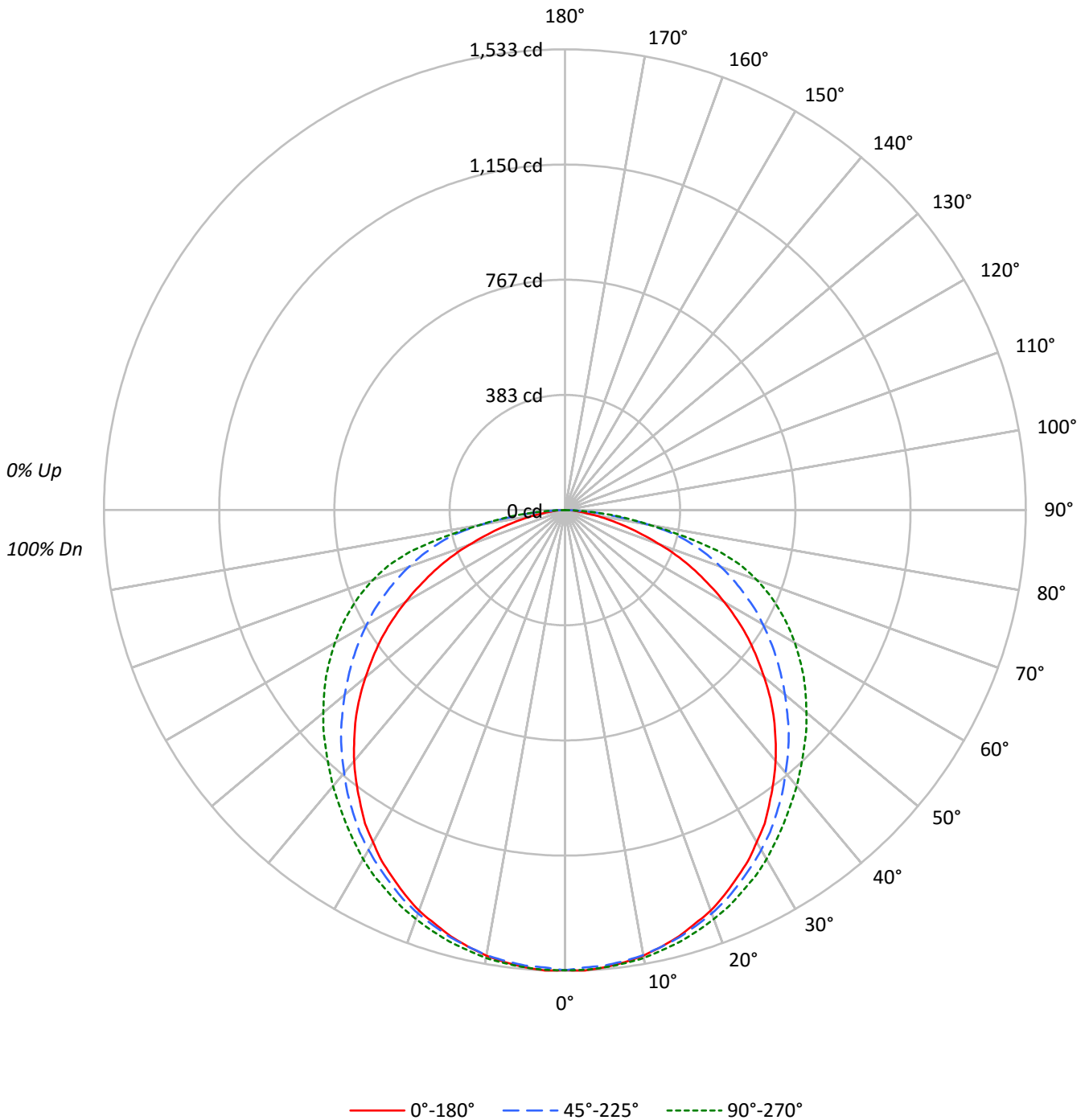
Input Watts (W): 59.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P309767

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-5500K

### Luminous Intensity Polar Plot





TEST NUMBER: P309767

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-5500K

**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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

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

	0°	45°	90°
0°	2060	2060	2060
5°	2063	2055	2063
10°	2057	2054	2068
15°	2045	2050	2069
20°	2031	2045	2073
25°	2006	2036	2076
30°	1983	2029	2084
35°	1950	2018	2087
40°	1915	2006	2106
45°	1872	2004	2139
50°	1811	2002	2196
55°	1747	2016	2275
60°	1648	2047	2376
65°	1522	2095	2510
70°	1329	2168	2674
75°	1078	2280	2763
80°	796	2235	2235
85°	610	1647	1860



TEST NUMBER: P309767

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-5500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.0	3.1
10°-20°	416.5	8.8
20°-30°	634.1	13.4
30°-40°	769.9	16.3
40°-50°	813.4	17.2
50°-60°	767.6	16.3
60°-70°	638.2	13.5
70°-80°	419.9	8.9
80°-90°	114.4	2.4
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°	1195.6	25.3
0°-40°	1965.5	41.7
0°-60°	3546.5	75.2
0°-90°	4719.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4719.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1531	1531	1531	1531	1531	
5°	1527	1527	1521	1527	1527	145
15°	1468	1470	1472	1486	1486	414
25°	1351	1359	1371	1395	1399	623
35°	1187	1201	1229	1260	1270	743
45°	984	1004	1053	1104	1124	758
55°	745	776	859	940	970	663
65°	478	533	658	755	788	473
75°	207	302	439	520	531	223
85°	40	87	107	118	120	48
90°	0	0	0	0	0	



TEST NUMBER: P309767

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-5500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1531.1	1531.1	1531.1	1531.1	1531.1
2.5°	1533.1	1531.1	1523.2	1531.1	1531.1
5°	1527.1	1527.1	1521.2	1527.1	1527.1
7.5°	1517.3	1517.3	1513.3	1521.2	1521.2
10°	1505.4	1505.4	1503.4	1513.3	1513.3
12.5°	1487.6	1489.6	1487.6	1499.5	1499.5
15°	1467.9	1469.8	1471.8	1485.6	1485.6
17.5°	1442.2	1446.1	1450.1	1465.9	1467.9
20°	1418.5	1420.5	1428.4	1446.1	1448.1
22.5°	1386.9	1392.8	1402.7	1420.5	1426.4
25°	1351.3	1359.2	1371.1	1394.8	1398.7
27.5°	1317.7	1323.6	1339.5	1365.1	1373.0
30°	1276.2	1286.1	1305.9	1331.5	1341.4
32.5°	1236.7	1246.6	1270.3	1298.0	1305.9
35°	1187.3	1201.2	1228.8	1260.4	1270.3
37.5°	1139.9	1153.7	1187.3	1222.9	1234.7
40°	1090.5	1106.3	1141.9	1183.4	1199.2
42.5°	1037.2	1058.9	1098.4	1143.9	1161.6
45°	983.8	1003.6	1053.0	1104.4	1124.1
47.5°	926.6	950.3	1003.6	1064.8	1088.6
50°	865.3	894.9	956.2	1023.4	1049.0
52.5°	804.1	837.7	906.8	981.9	1009.5
55°	744.8	776.4	859.4	940.4	970.0
57.5°	679.6	719.1	810.0	896.9	926.6
60°	612.4	655.9	760.6	851.5	883.1
62.5°	545.3	594.7	713.2	804.1	837.7
65°	478.1	533.4	657.9	754.7	788.3
67.5°	412.9	474.1	606.5	703.3	736.9
70°	337.8	414.9	551.2	646.0	679.6
72.5°	268.7	357.6	497.8	586.8	616.4
75°	207.4	302.3	438.6	519.6	531.4
77.5°	152.1	246.9	377.3	405.0	407.0
80°	102.7	197.6	288.4	284.5	288.4
82.5°	67.2	148.2	181.8	203.5	205.5
85°	39.5	86.9	106.7	118.5	120.5
87.5°	19.8	29.6	37.5	39.5	43.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)