

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: P311620

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-CA08-W2A-U-5000K**

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: P311620  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-55HE-UNV-L82765-S-CA08-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5000K 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: 5490.0 lumens  
Efficiency: N/A  
Efficacy: 124.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

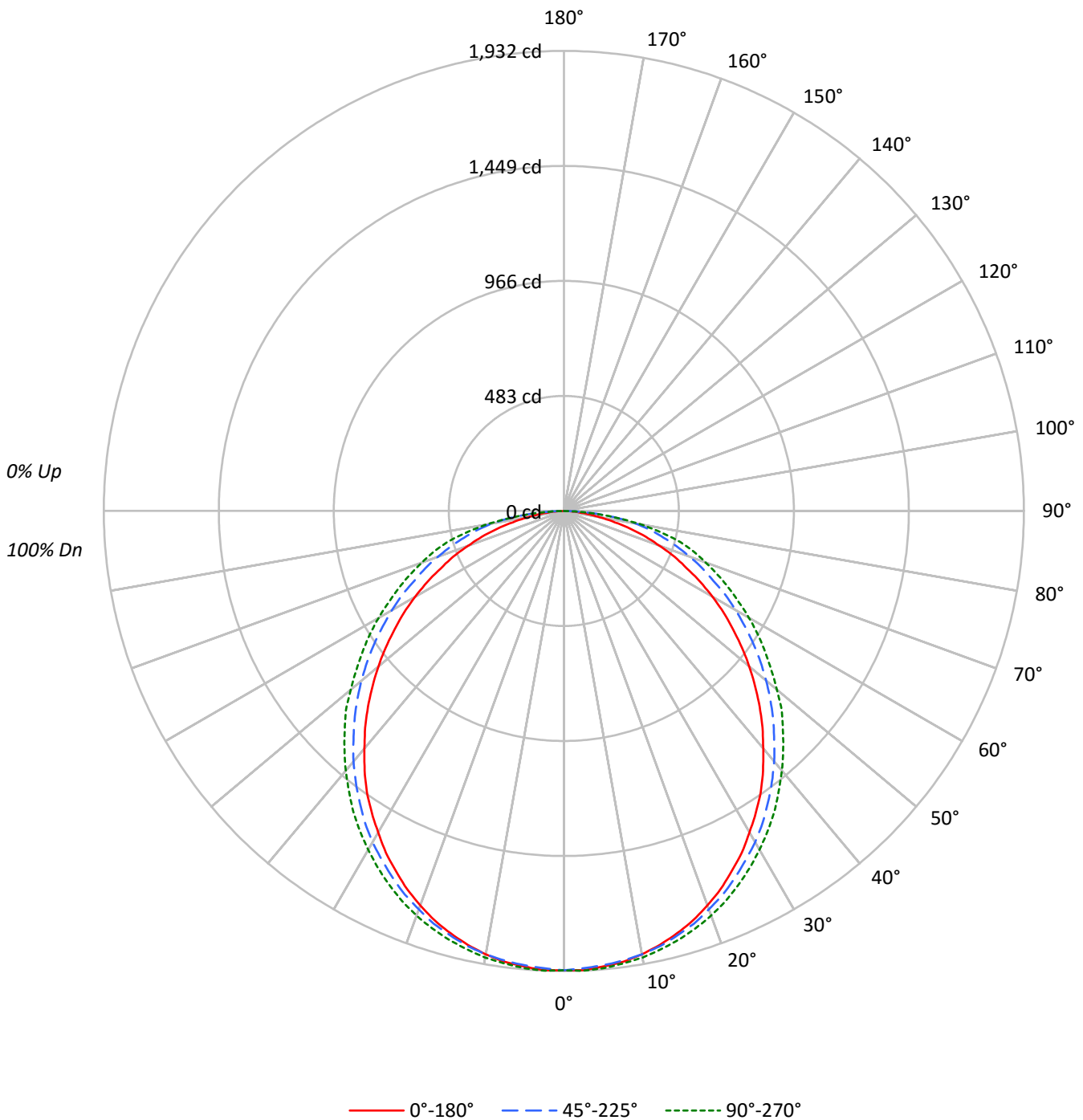
Input Watts (W): 44.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P311620

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-S-CA08-W2A-U-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P311620

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-S-CA08-W2A-U-5000K

**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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	2595	2595	2595
5°	2593	2586	2603
10°	2583	2583	2602
15°	2558	2570	2597
20°	2524	2549	2589
25°	2477	2524	2573
30°	2422	2495	2552
35°	2369	2455	2532
40°	2288	2413	2502
45°	2213	2366	2475
50°	2128	2322	2446
55°	2033	2278	2422
60°	1938	2243	2417
65°	1815	2204	2432
70°	1681	2216	2497
75°	1505	2257	2638
80°	1216	2392	2581
85°	915	2100	2046



TEST NUMBER: P311620

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-S-CA08-W2A-U-5000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	182.6	3.3
10°-20°	521.7	9.5
20°-30°	784.3	14.3
30°-40°	934.2	17.0
40°-50°	956.1	17.4
50°-60°	860.8	15.7
60°-70°	676.0	12.3
70°-80°	438.7	8.0
80°-90°	135.7	2.5
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°	1488.6	27.1
0°-40°	2422.8	44.1
0°-60°	4239.6	77.2
0°-90°	5490.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5490.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1929	1929	1929	1929	1929	
5°	1920	1923	1915	1925	1927	182
15°	1836	1842	1845	1861	1864	518
25°	1669	1683	1700	1728	1733	769
35°	1442	1460	1494	1531	1542	900
45°	1163	1191	1243	1290	1301	897
55°	867	905	971	1022	1032	777
65°	570	614	692	750	764	568
75°	290	345	434	494	508	306
85°	59	110	136	132	132	72
90°	0	0	0	0	0	



TEST NUMBER: P311620

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-S-CA08-W2A-U-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1928.7	1928.7	1928.7	1928.7	1928.7
2.5°	1930.4	1930.4	1921.7	1930.4	1932.2
5°	1920.0	1923.4	1914.7	1925.2	1926.9
7.5°	1909.5	1909.5	1904.3	1914.7	1916.5
10°	1890.3	1892.1	1890.3	1902.5	1904.3
12.5°	1865.9	1869.4	1871.1	1883.3	1885.1
15°	1836.3	1841.5	1845.0	1860.7	1864.2
17.5°	1803.1	1808.3	1817.1	1834.5	1838.0
20°	1763.0	1770.0	1780.4	1803.1	1808.3
22.5°	1719.4	1726.4	1743.8	1764.8	1773.5
25°	1668.8	1682.8	1700.2	1728.1	1733.4
27.5°	1618.3	1630.5	1653.1	1682.8	1689.8
30°	1559.0	1578.2	1606.1	1635.7	1642.7
32.5°	1501.4	1520.6	1553.8	1585.1	1593.9
35°	1442.1	1459.6	1494.5	1531.1	1541.5
37.5°	1374.1	1396.8	1435.2	1471.8	1482.3
40°	1302.6	1330.5	1374.1	1412.5	1424.7
42.5°	1234.6	1264.3	1307.9	1349.7	1363.7
45°	1163.1	1191.0	1243.3	1290.4	1300.9
47.5°	1089.9	1121.3	1177.1	1224.2	1241.6
50°	1016.7	1049.8	1109.1	1157.9	1168.4
52.5°	943.4	978.3	1041.1	1093.4	1098.6
55°	866.7	905.0	971.3	1021.9	1032.3
57.5°	796.9	830.1	901.6	953.9	966.1
60°	720.2	756.8	833.5	882.4	898.1
62.5°	647.0	685.3	765.5	814.4	828.3
65°	570.2	613.8	692.3	749.8	763.8
67.5°	504.0	545.8	629.5	685.3	699.3
70°	427.2	474.3	563.3	620.8	634.8
72.5°	361.0	409.8	498.7	554.5	575.5
75°	289.5	345.3	434.2	493.5	507.5
77.5°	219.7	284.2	374.9	420.3	420.3
80°	156.9	225.0	308.7	329.6	333.1
82.5°	102.9	169.2	228.4	226.7	226.7
85°	59.3	109.9	136.0	132.5	132.5
87.5°	22.7	45.3	48.8	48.8	47.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)