

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: P311480

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CA08-W2A-U-2700K**

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: P311480  
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: 24FCZ2-45-UNV-L82765-S-CA08-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 2700K 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

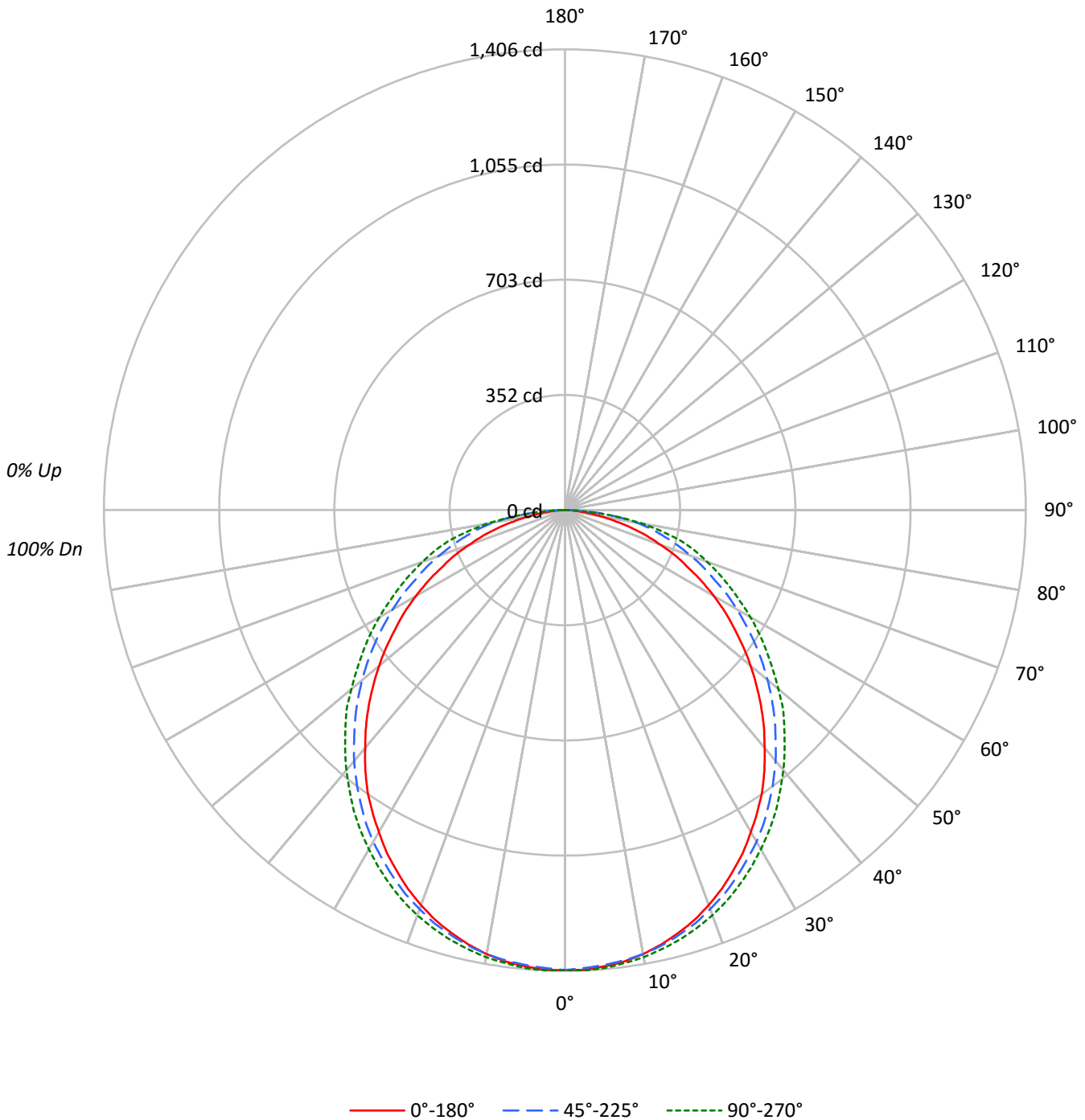
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3995.0 lumens  
Efficiency: N/A  
Efficacy: 106.2 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): 37.6  
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: P311480  
CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CA08-W2A-U-2700K

### Luminous Intensity Polar Plot





TEST NUMBER: P311480

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CA08-W2A-U-2700K

**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°	1888	1888	1888
5°	1887	1882	1894
10°	1879	1879	1893
15°	1861	1870	1890
20°	1837	1855	1884
25°	1803	1837	1873
30°	1763	1816	1857
35°	1724	1786	1843
40°	1665	1756	1821
45°	1611	1722	1801
50°	1549	1689	1780
55°	1479	1658	1762
60°	1410	1632	1759
65°	1321	1604	1769
70°	1223	1613	1817
75°	1095	1643	1920
80°	885	1740	1878
85°	665	1528	1488



TEST NUMBER: P311480

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CA08-W2A-U-2700K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.9	3.3
10°-20°	379.6	9.5
20°-30°	570.7	14.3
30°-40°	679.8	17.0
40°-50°	695.7	17.4
50°-60°	626.4	15.7
60°-70°	491.9	12.3
70°-80°	319.2	8.0
80°-90°	98.7	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°	1083.2	27.1
0°-40°	1763.0	44.1
0°-60°	3085.1	77.2
0°-90°	3995.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3995.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1404	1404	1404	1404	1404	
5°	1397	1400	1393	1401	1402	133
15°	1336	1340	1343	1354	1356	377
25°	1214	1224	1237	1258	1261	559
35°	1049	1062	1088	1114	1122	655
45°	846	867	905	939	947	653
55°	631	659	707	744	751	565
65°	415	447	504	546	556	413
75°	211	251	316	359	369	223
85°	43	80	99	96	96	52
90°	0	0	0	0	0	



TEST NUMBER: P311480

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-S-CA08-W2A-U-2700K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1403.5	1403.5	1403.5	1403.5	1403.5
2.5°	1404.7	1404.7	1398.4	1404.7	1406.0
5°	1397.1	1399.7	1393.3	1400.9	1402.2
7.5°	1389.5	1389.5	1385.7	1393.3	1394.6
10°	1375.6	1376.8	1375.6	1384.4	1385.7
12.5°	1357.8	1360.3	1361.6	1370.5	1371.7
15°	1336.2	1340.0	1342.6	1354.0	1356.5
17.5°	1312.1	1315.9	1322.3	1334.9	1337.5
20°	1282.9	1288.0	1295.6	1312.1	1315.9
22.5°	1251.2	1256.3	1269.0	1284.2	1290.5
25°	1214.4	1224.5	1237.2	1257.5	1261.3
27.5°	1177.6	1186.5	1203.0	1224.5	1229.6
30°	1134.5	1148.4	1168.7	1190.3	1195.4
32.5°	1092.6	1106.5	1130.6	1153.5	1159.8
35°	1049.4	1062.1	1087.5	1114.1	1121.8
37.5°	999.9	1016.4	1044.4	1071.0	1078.6
40°	947.9	968.2	999.9	1027.9	1036.7
42.5°	898.4	920.0	951.7	982.2	992.3
45°	846.4	866.7	904.8	939.0	946.6
47.5°	793.1	815.9	856.5	890.8	903.5
50°	739.8	763.9	807.1	842.6	850.2
52.5°	686.5	711.9	757.6	795.6	799.4
55°	630.7	658.6	706.8	743.6	751.2
57.5°	579.9	604.0	656.1	694.1	703.0
60°	524.1	550.7	606.6	642.1	653.5
62.5°	470.8	498.7	557.1	592.6	602.8
65°	414.9	446.7	503.8	545.7	555.8
67.5°	366.7	397.2	458.1	498.7	508.9
70°	310.9	345.2	409.9	451.7	461.9
72.5°	262.7	298.2	362.9	403.5	418.8
75°	210.6	251.3	316.0	359.1	369.3
77.5°	159.9	206.8	272.8	305.8	305.8
80°	114.2	163.7	224.6	239.8	242.4
82.5°	74.9	123.1	166.2	165.0	165.0
85°	43.1	79.9	99.0	96.4	96.4
87.5°	16.5	33.0	35.5	35.5	34.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)