

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: P310765

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-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: P310765  
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: 24FCZ2-45HE-UNV-L82765-CA08-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED 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**

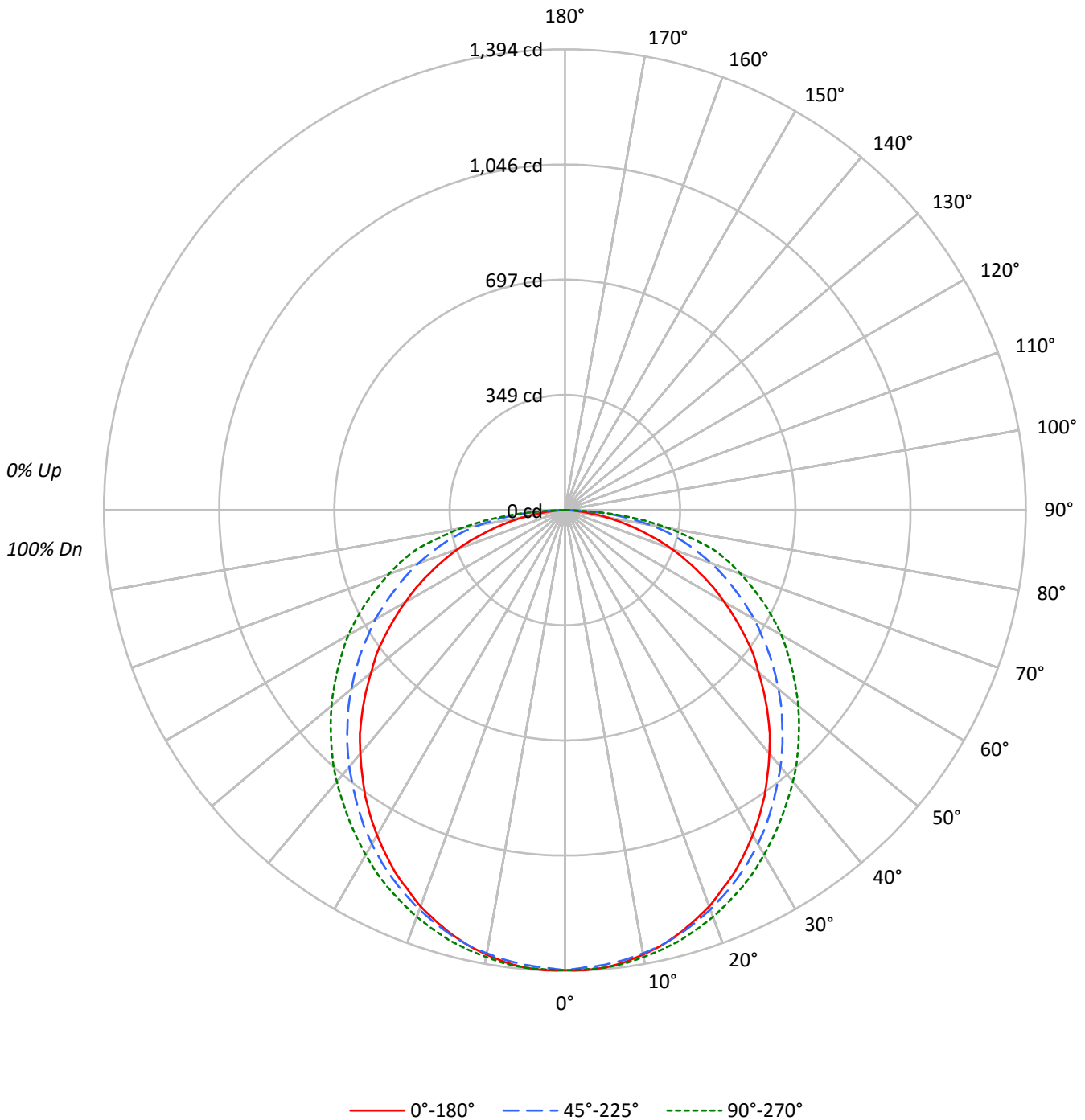
Lumens per Lamp: N/A  
Luminaire Lumens: 4222.0 lumens  
Efficiency: N/A  
Efficacy: 122.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.6  
Input Voltage (V): NR  
Input Current (A<sub>in</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



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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°	1873	1873	1873
5°	1877	1865	1877
10°	1866	1860	1876
15°	1850	1854	1877
20°	1827	1841	1875
25°	1799	1828	1874
30°	1765	1813	1872
35°	1730	1795	1873
40°	1690	1781	1885
45°	1650	1770	1901
50°	1601	1765	1929
55°	1561	1768	1968
60°	1500	1783	2035
65°	1432	1802	2110
70°	1356	1857	2226
75°	1209	1937	2432
80°	1031	2051	2486
85°	735	2033	2379



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.8	3.1
10°-20°	376.8	8.9
20°-30°	569.1	13.5
30°-40°	685.9	16.2
40°-50°	720.1	17.1
50°-60°	673.7	16.0
60°-70°	556.3	13.2
70°-80°	379.1	9.0
80°-90°	129.3	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°	1077.7	25.5
0°-40°	1763.6	41.8
0°-60°	3157.3	74.8
0°-90°	4222.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4222.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1392	1392	1392	1392	1392	
5°	1390	1388	1381	1390	1390	132
15°	1328	1329	1331	1345	1348	374
25°	1212	1217	1231	1255	1262	558
35°	1053	1065	1093	1129	1140	658
45°	867	885	930	980	999	669
55°	665	692	754	815	839	594
65°	450	488	566	637	663	446
75°	232	286	373	443	468	248
85°	48	94	132	148	154	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1392.4	1392.4	1392.4	1392.4	1392.4
2.5°	1393.8	1392.4	1385.4	1392.4	1391.0
5°	1389.6	1388.2	1381.2	1389.6	1389.6
7.5°	1379.8	1379.8	1372.8	1382.6	1384.0
10°	1365.8	1365.8	1361.6	1372.8	1372.8
12.5°	1349.0	1349.0	1349.0	1360.2	1361.6
15°	1327.9	1329.3	1330.7	1344.8	1347.6
17.5°	1302.7	1305.5	1309.7	1326.5	1329.3
20°	1276.1	1278.9	1285.9	1305.5	1309.7
22.5°	1242.5	1249.5	1259.3	1281.7	1285.9
25°	1211.7	1217.3	1231.3	1255.1	1262.1
27.5°	1173.9	1182.3	1200.5	1225.7	1235.5
30°	1136.0	1144.4	1166.9	1196.3	1204.7
32.5°	1095.4	1108.0	1131.8	1162.7	1172.5
35°	1053.4	1064.6	1092.6	1129.0	1140.2
37.5°	1007.2	1022.6	1053.4	1092.6	1106.6
40°	962.3	979.1	1014.2	1056.2	1073.0
42.5°	917.5	934.3	973.5	1021.2	1038.0
45°	867.1	885.3	930.1	980.5	998.8
47.5°	816.7	839.1	888.1	941.3	960.9
50°	764.8	790.0	843.3	899.3	921.7
52.5°	718.6	742.4	798.4	858.7	879.7
55°	665.4	692.0	753.6	815.3	839.1
57.5°	610.7	640.2	706.0	773.2	797.0
60°	557.5	589.7	662.6	729.8	756.4
62.5°	505.7	537.9	613.5	683.6	710.2
65°	449.7	487.5	565.9	637.4	662.6
67.5°	396.4	437.0	519.7	589.7	614.9
70°	344.6	383.8	472.1	540.7	565.9
72.5°	288.6	333.4	421.6	493.1	519.7
75°	232.5	285.8	372.6	442.6	467.9
77.5°	180.7	235.3	322.2	379.6	392.2
80°	133.1	189.1	264.7	305.4	320.8
82.5°	85.4	141.5	201.7	231.1	243.7
85°	47.6	93.9	131.7	148.5	154.1
87.5°	19.6	40.6	53.2	60.2	60.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)