

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: P313967

Luminaire Tested: **24FCZ2-45-UNV-L83050-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: P313967  
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: 24FCZ2-45-UNV-L83050-CA08-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 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**

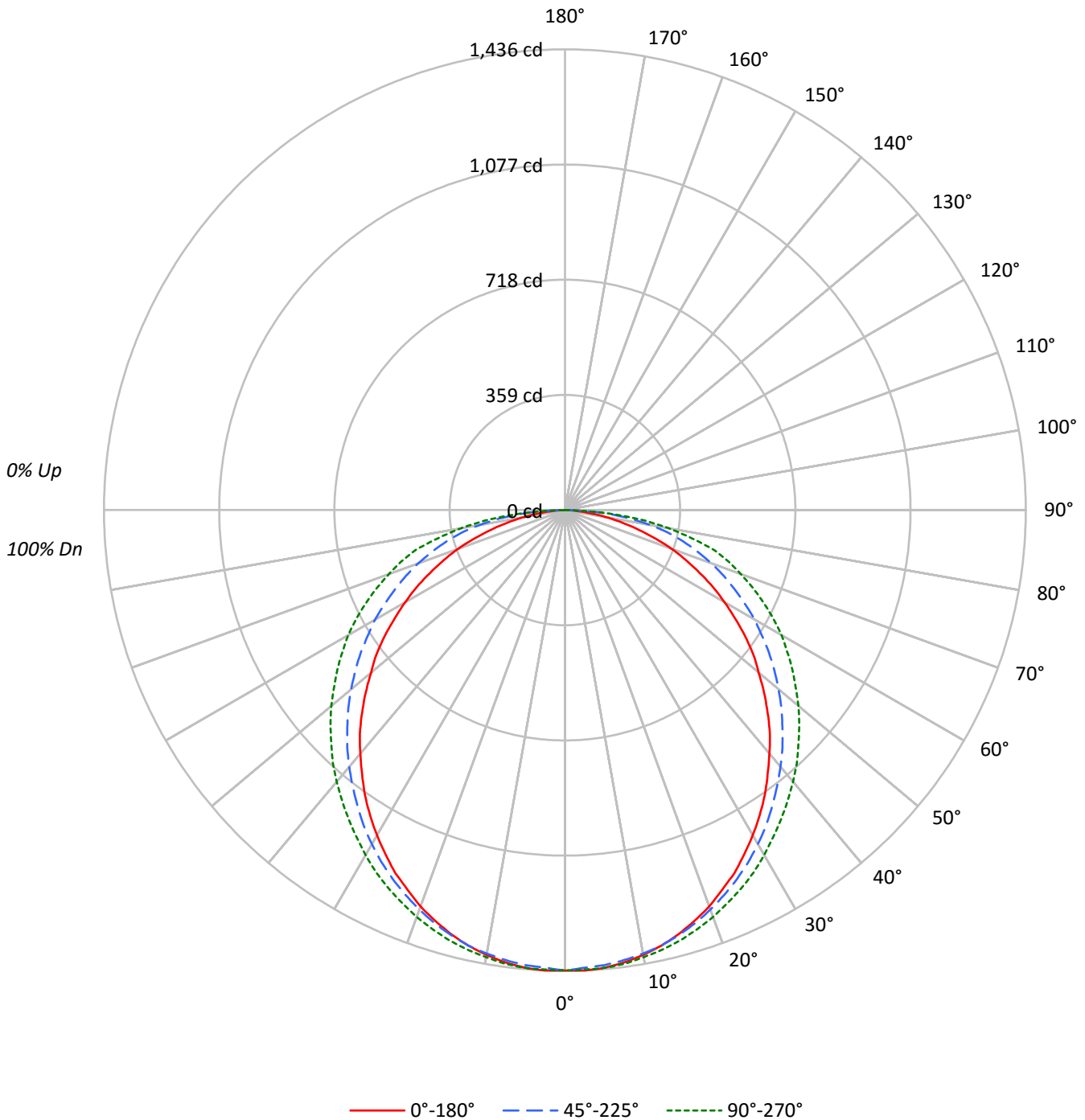
Lumens per Lamp: N/A  
Luminaire Lumens: 4351.0 lumens  
Efficiency: N/A  
Efficacy: 113.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1931	1931	1931
5°	1934	1922	1934
10°	1923	1917	1933
15°	1906	1910	1934
20°	1883	1897	1933
25°	1854	1884	1931
30°	1819	1868	1929
35°	1783	1849	1930
40°	1742	1836	1942
45°	1700	1824	1959
50°	1650	1819	1988
55°	1609	1822	2028
60°	1546	1837	2098
65°	1475	1857	2174
70°	1397	1914	2294
75°	1246	1996	2507
80°	1062	2114	2562
85°	758	2095	2452



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.8	3.1
10°-20°	388.3	8.9
20°-30°	586.5	13.5
30°-40°	706.9	16.2
40°-50°	742.1	17.1
50°-60°	694.2	16.0
60°-70°	573.3	13.2
70°-80°	390.7	9.0
80°-90°	133.2	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°	1110.6	25.5
0°-40°	1817.4	41.8
0°-60°	3253.8	74.8
0°-90°	4351.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4351.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1435	1435	1435	1435	1435	
5°	1432	1431	1423	1432	1432	136
15°	1368	1370	1371	1386	1389	386
25°	1249	1254	1269	1294	1301	575
35°	1086	1097	1126	1164	1175	678
45°	894	912	958	1010	1029	689
55°	686	713	777	840	865	612
65°	463	502	583	657	683	460
75°	240	294	384	456	482	256
85°	49	97	136	153	159	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1434.9	1434.9	1434.9	1434.9	1434.9
2.5°	1436.4	1434.9	1427.7	1434.9	1433.5
5°	1432.0	1430.6	1423.4	1432.0	1432.0
7.5°	1421.9	1421.9	1414.7	1424.8	1426.3
10°	1407.5	1407.5	1403.2	1414.7	1414.7
12.5°	1390.2	1390.2	1390.2	1401.7	1403.2
15°	1368.5	1370.0	1371.4	1385.8	1388.7
17.5°	1342.5	1345.4	1349.8	1367.1	1370.0
20°	1315.1	1318.0	1325.2	1345.4	1349.8
22.5°	1280.5	1287.7	1297.8	1320.9	1325.2
25°	1248.7	1254.5	1268.9	1293.5	1300.7
27.5°	1209.7	1218.4	1237.2	1263.1	1273.2
30°	1170.7	1179.4	1202.5	1232.8	1241.5
32.5°	1128.9	1141.9	1166.4	1198.2	1208.3
35°	1085.6	1097.1	1126.0	1163.5	1175.1
37.5°	1037.9	1053.8	1085.6	1126.0	1140.4
40°	991.7	1009.1	1045.2	1088.5	1105.8
42.5°	945.5	962.9	1003.3	1052.4	1069.7
45°	893.6	912.3	958.5	1010.5	1029.3
47.5°	841.6	864.7	915.2	970.1	990.3
50°	788.2	814.2	869.0	926.8	949.9
52.5°	740.6	765.1	822.8	884.9	906.6
55°	685.7	713.1	776.6	840.2	864.7
57.5°	629.4	659.7	727.6	796.9	821.4
60°	574.5	607.7	682.8	752.1	779.5
62.5°	521.1	554.3	632.3	704.5	731.9
65°	463.4	502.4	583.2	656.8	682.8
67.5°	408.5	450.4	535.6	607.7	633.7
70°	355.1	395.5	486.5	557.2	583.2
72.5°	297.4	343.6	434.5	508.1	535.6
75°	239.6	294.5	384.0	456.2	482.2
77.5°	186.2	242.5	332.0	391.2	404.2
80°	137.1	194.9	272.8	314.7	330.6
82.5°	88.1	145.8	207.9	238.2	251.2
85°	49.1	96.7	135.7	153.0	158.8
87.5°	20.2	41.9	54.9	62.1	62.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)