

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: P314193

Luminaire Tested: **24FCZ2-30-UNV-L83050-S-CA08-W2A-U-4500K**

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: P314193  
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: 24FCZ2-30-UNV-L83050-S-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 4500K 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**

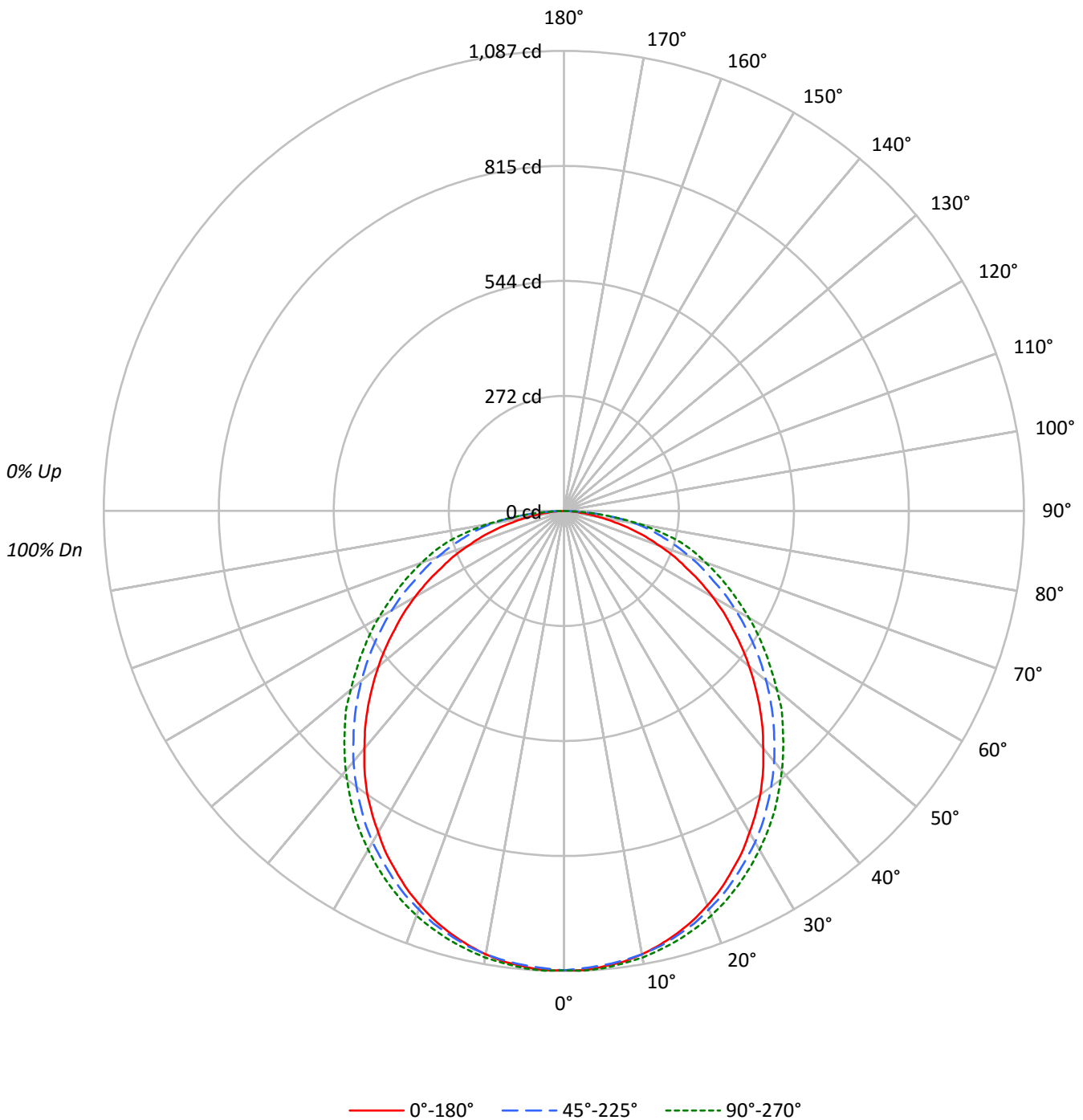
Lumens per Lamp: N/A  
Luminaire Lumens: 3089.0 lumens  
Efficiency: N/A  
Efficacy: 126.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 24.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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	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°	1460	1460	1460
5°	1459	1455	1464
10°	1453	1453	1464
15°	1439	1446	1461
20°	1420	1434	1457
25°	1394	1420	1448
30°	1363	1404	1436
35°	1333	1381	1425
40°	1287	1358	1408
45°	1245	1331	1393
50°	1197	1306	1376
55°	1144	1282	1363
60°	1090	1262	1360
65°	1021	1240	1368
70°	946	1247	1405
75°	847	1270	1484
80°	684	1346	1452
85°	516	1181	1152



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.7	3.3
10°-20°	293.6	9.5
20°-30°	441.3	14.3
30°-40°	525.6	17.0
40°-50°	538.0	17.4
50°-60°	484.3	15.7
60°-70°	380.3	12.3
70°-80°	246.9	8.0
80°-90°	76.4	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°	837.6	27.1
0°-40°	1363.2	44.1
0°-60°	2385.5	77.2
0°-90°	3089.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3089.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1085	1085	1085	1085	1085	
5°	1080	1082	1077	1083	1084	103
15°	1033	1036	1038	1047	1049	291
25°	939	947	957	972	975	433
35°	811	821	841	862	867	506
45°	654	670	700	726	732	505
55°	488	509	546	575	581	437
65°	321	345	390	422	430	319
75°	163	194	244	278	286	172
85°	33	62	76	75	75	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1085.2	1085.2	1085.2	1085.2	1085.2
2.5°	1086.2	1086.2	1081.3	1086.2	1087.1
5°	1080.3	1082.2	1077.3	1083.2	1084.2
7.5°	1074.4	1074.4	1071.4	1077.3	1078.3
10°	1063.6	1064.6	1063.6	1070.5	1071.4
12.5°	1049.9	1051.8	1052.8	1059.7	1060.7
15°	1033.2	1036.1	1038.1	1046.9	1048.9
17.5°	1014.5	1017.5	1022.4	1032.2	1034.2
20°	992.0	995.9	1001.8	1014.5	1017.5
22.5°	967.4	971.4	981.2	993.0	997.9
25°	939.0	946.8	956.7	972.4	975.3
27.5°	910.5	917.4	930.2	946.8	950.8
30°	877.2	888.0	903.7	920.3	924.3
32.5°	844.8	855.6	874.2	891.9	896.8
35°	811.4	821.2	840.9	861.5	867.4
37.5°	773.2	785.9	807.5	828.1	834.0
40°	732.9	748.6	773.2	794.8	801.6
42.5°	694.7	711.4	735.9	759.4	767.3
45°	654.4	670.1	699.6	726.1	732.0
47.5°	613.2	630.9	662.3	688.8	698.6
50°	572.0	590.7	624.0	651.5	657.4
52.5°	530.8	550.4	585.8	615.2	618.1
55°	487.6	509.2	546.5	575.0	580.9
57.5°	448.4	467.0	507.3	536.7	543.6
60°	405.2	425.8	469.0	496.5	505.3
62.5°	364.0	385.6	430.7	458.2	466.1
65°	320.8	345.4	389.5	421.9	429.8
67.5°	283.6	307.1	354.2	385.6	393.5
70°	240.4	266.9	316.9	349.3	357.1
72.5°	203.1	230.6	280.6	312.0	323.8
75°	162.9	194.3	244.3	277.7	285.5
77.5°	123.6	159.9	211.0	236.5	236.5
80°	88.3	126.6	173.7	185.4	187.4
82.5°	57.9	95.2	128.5	127.6	127.6
85°	33.4	61.8	76.5	74.6	74.6
87.5°	12.8	25.5	27.5	27.5	26.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)