

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: P311300

Luminaire Tested: **24FCZ2-35-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: P311300  
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: 24FCZ2-35-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**

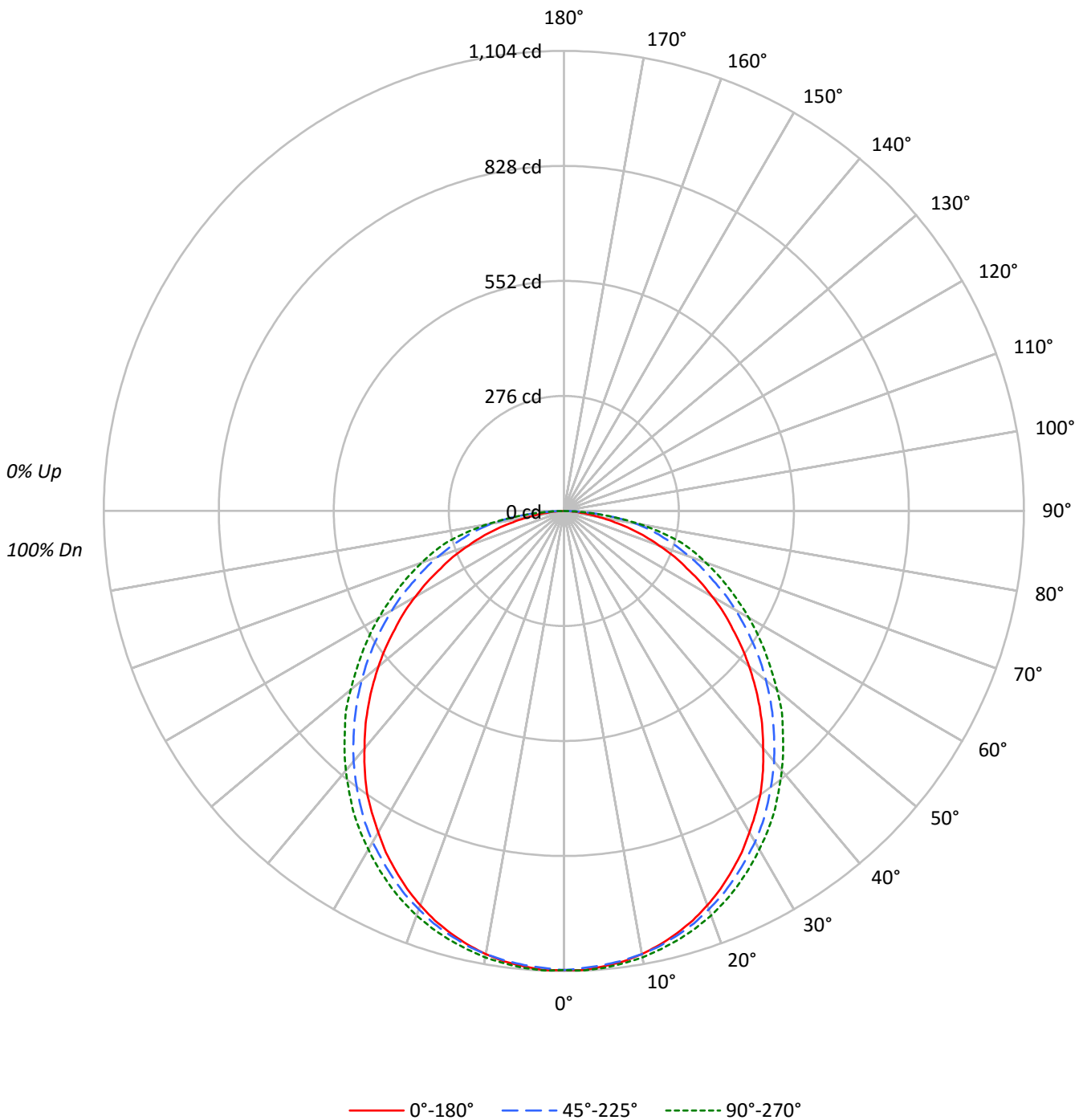
Lumens per Lamp: N/A  
Luminaire Lumens: 3136.0 lumens  
Efficiency: N/A  
Efficacy: 112.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	1482	1482	1482
5°	1481	1477	1487
10°	1475	1475	1486
15°	1461	1468	1483
20°	1442	1456	1479
25°	1415	1442	1470
30°	1384	1425	1458
35°	1353	1402	1446
40°	1307	1379	1429
45°	1264	1351	1414
50°	1216	1326	1397
55°	1161	1301	1383
60°	1107	1281	1380
65°	1037	1259	1389
70°	960	1266	1426
75°	860	1289	1507
80°	694	1366	1475
85°	523	1200	1169



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.3	3.3
10°-20°	298.0	9.5
20°-30°	448.0	14.3
30°-40°	533.6	17.0
40°-50°	546.1	17.4
50°-60°	491.7	15.7
60°-70°	386.1	12.3
70°-80°	250.6	8.0
80°-90°	77.5	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°	850.3	27.1
0°-40°	1383.9	44.1
0°-60°	2421.7	77.2
0°-90°	3136.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3136.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1102	1102	1102	1102	1102	
5°	1097	1099	1094	1100	1101	104
15°	1049	1052	1054	1063	1065	296
25°	953	961	971	987	990	439
35°	824	834	854	875	881	514
45°	664	680	710	737	743	512
55°	495	517	555	584	590	444
65°	326	351	396	428	436	324
75°	165	197	248	282	290	175
85°	34	63	78	76	76	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1101.7	1101.7	1101.7	1101.7	1101.7
2.5°	1102.7	1102.7	1097.7	1102.7	1103.7
5°	1096.7	1098.7	1093.7	1099.7	1100.7
7.5°	1090.7	1090.7	1087.8	1093.7	1094.7
10°	1079.8	1080.8	1079.8	1086.8	1087.8
12.5°	1065.8	1067.8	1068.8	1075.8	1076.8
15°	1048.9	1051.9	1053.9	1062.8	1064.8
17.5°	1030.0	1033.0	1037.9	1047.9	1049.9
20°	1007.1	1011.1	1017.0	1030.0	1033.0
22.5°	982.2	986.1	996.1	1008.1	1013.0
25°	953.3	961.2	971.2	987.1	990.1
27.5°	924.4	931.4	944.3	961.2	965.2
30°	890.5	901.5	917.4	934.4	938.3
32.5°	857.7	868.6	887.5	905.5	910.4
35°	823.8	833.7	853.7	874.6	880.6
37.5°	784.9	797.9	819.8	840.7	846.7
40°	744.1	760.0	784.9	806.8	813.8
42.5°	705.2	722.2	747.1	771.0	779.0
45°	664.4	680.3	710.2	737.1	743.1
47.5°	622.6	640.5	672.4	699.3	709.2
50°	580.7	599.7	633.5	661.4	667.4
52.5°	538.9	558.8	594.7	624.6	627.5
55°	495.1	517.0	554.8	583.7	589.7
57.5°	455.2	474.1	515.0	544.9	551.8
60°	411.4	432.3	476.1	504.0	513.0
62.5°	369.6	391.5	437.3	465.2	473.2
65°	325.7	350.6	395.5	428.3	436.3
67.5°	287.9	311.8	359.6	391.5	399.4
70°	244.0	270.9	321.7	354.6	362.6
72.5°	206.2	234.1	284.9	316.8	328.7
75°	165.4	197.2	248.0	281.9	289.9
77.5°	125.5	162.4	214.2	240.1	240.1
80°	89.6	128.5	176.3	188.3	190.3
82.5°	58.8	96.6	130.5	129.5	129.5
85°	33.9	62.8	77.7	75.7	75.7
87.5°	12.9	25.9	27.9	27.9	26.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)