

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: P311214

Luminaire Tested: **24FCZ2-30-UNV-L82765-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: P311214  
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-L82765-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**

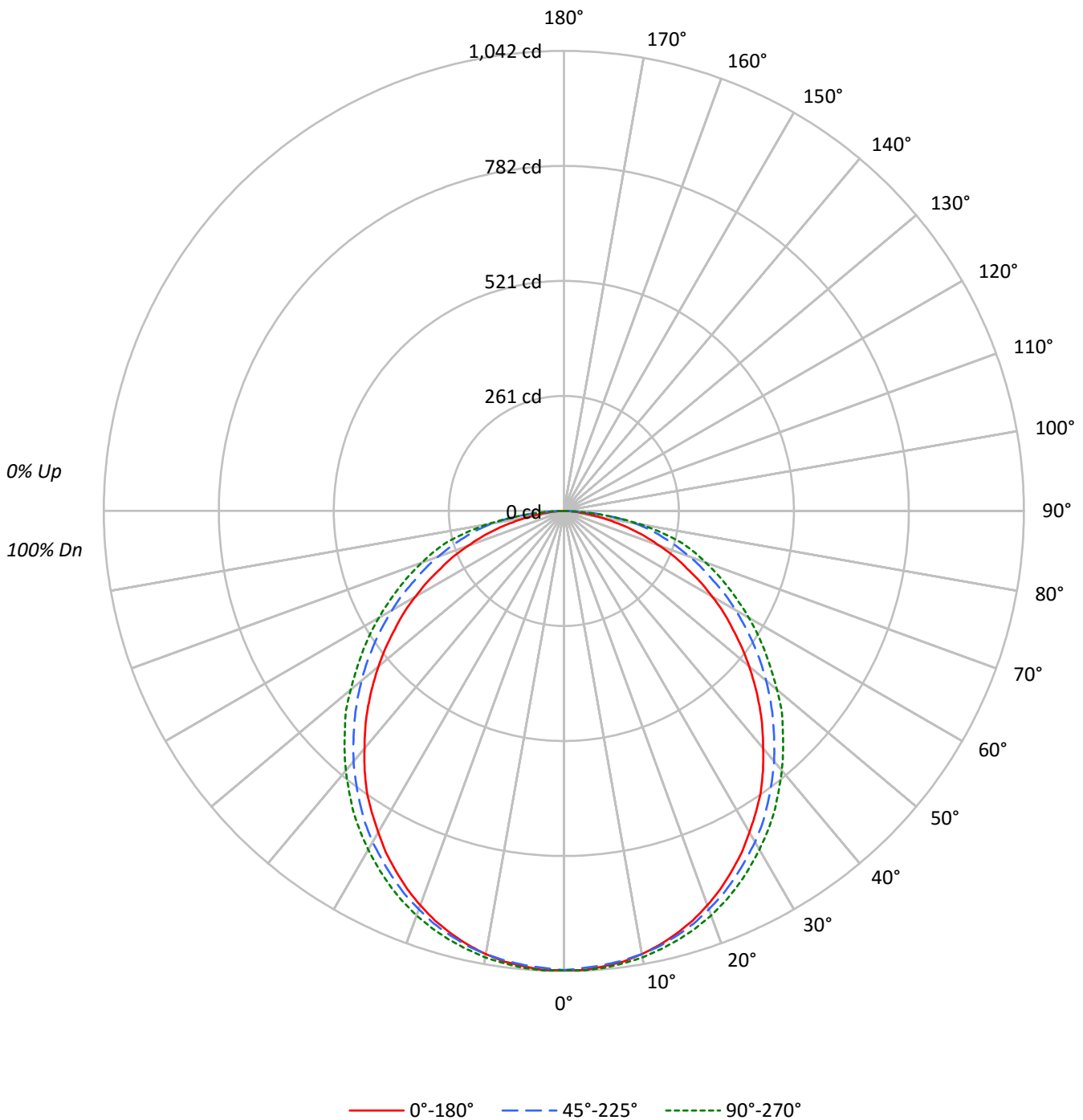
Lumens per Lamp: N/A  
Luminaire Lumens: 2960.0 lumens  
Efficiency: N/A  
Efficacy: 124.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1399	1399	1399
5°	1398	1394	1403
10°	1392	1392	1403
15°	1379	1386	1400
20°	1361	1374	1396
25°	1336	1361	1387
30°	1306	1345	1376
35°	1277	1324	1365
40°	1234	1301	1349
45°	1193	1276	1335
50°	1147	1252	1319
55°	1096	1228	1306
60°	1045	1209	1303
65°	979	1188	1311
70°	906	1195	1346
75°	811	1217	1422
80°	656	1289	1392
85°	494	1132	1104



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.4	3.3
10°-20°	281.3	9.5
20°-30°	422.8	14.3
30°-40°	503.7	17.0
40°-50°	515.5	17.4
50°-60°	464.1	15.7
60°-70°	364.5	12.3
70°-80°	236.5	8.0
80°-90°	73.2	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°	802.6	27.1
0°-40°	1306.3	44.1
0°-60°	2285.8	77.2
0°-90°	2960.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2960.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1040	1040	1040	1040	1040	
5°	1035	1037	1032	1038	1039	98
15°	990	993	995	1003	1005	279
25°	900	907	917	932	935	414
35°	778	787	806	826	831	485
45°	627	642	670	696	701	483
55°	467	488	524	551	557	419
65°	307	331	373	404	412	306
75°	156	186	234	266	274	165
85°	32	59	73	72	72	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1039.9	1039.9	1039.9	1039.9	1039.9
2.5°	1040.8	1040.8	1036.1	1040.8	1041.7
5°	1035.2	1037.0	1032.3	1038.0	1038.9
7.5°	1029.5	1029.5	1026.7	1032.3	1033.3
10°	1019.2	1020.1	1019.2	1025.8	1026.7
12.5°	1006.0	1007.9	1008.8	1015.4	1016.4
15°	990.0	992.9	994.7	1003.2	1005.1
17.5°	972.2	975.0	979.7	989.1	991.0
20°	950.5	954.3	959.9	972.2	975.0
22.5°	927.0	930.8	940.2	951.5	956.2
25°	899.8	907.3	916.7	931.7	934.6
27.5°	872.5	879.1	891.3	907.3	911.1
30°	840.5	850.9	865.9	881.9	885.7
32.5°	809.5	819.9	837.7	854.6	859.3
35°	777.5	787.0	805.8	825.5	831.1
37.5°	740.9	753.1	773.8	793.5	799.2
40°	702.3	717.4	740.9	761.6	768.1
42.5°	665.7	681.6	705.2	727.7	735.2
45°	627.1	642.2	670.4	695.8	701.4
47.5°	587.6	604.6	634.6	660.0	669.4
50°	548.1	566.0	598.0	624.3	629.9
52.5°	508.7	527.5	561.3	589.5	592.3
55°	467.3	488.0	523.7	551.0	556.6
57.5°	429.7	447.5	486.1	514.3	520.9
60°	388.3	408.0	449.4	475.7	484.2
62.5°	348.8	369.5	412.8	439.1	446.6
65°	307.4	331.0	373.3	404.3	411.8
67.5°	271.7	294.3	339.4	369.5	377.0
70°	230.4	255.7	303.7	334.7	342.2
72.5°	194.6	220.9	268.9	299.0	310.3
75°	156.1	186.2	234.1	266.1	273.6
77.5°	118.5	153.3	202.1	226.6	226.6
80°	84.6	121.3	166.4	177.7	179.6
82.5°	55.5	91.2	123.2	122.2	122.2
85°	32.0	59.2	73.3	71.5	71.5
87.5°	12.2	24.4	26.3	26.3	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)