

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: P314169

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-S-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: P314169  
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: 24FCZ2-30HE-UNV-L83050-S-CA08-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 3126.0 lumens  
Efficiency: N/A  
Efficacy: 141.4 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

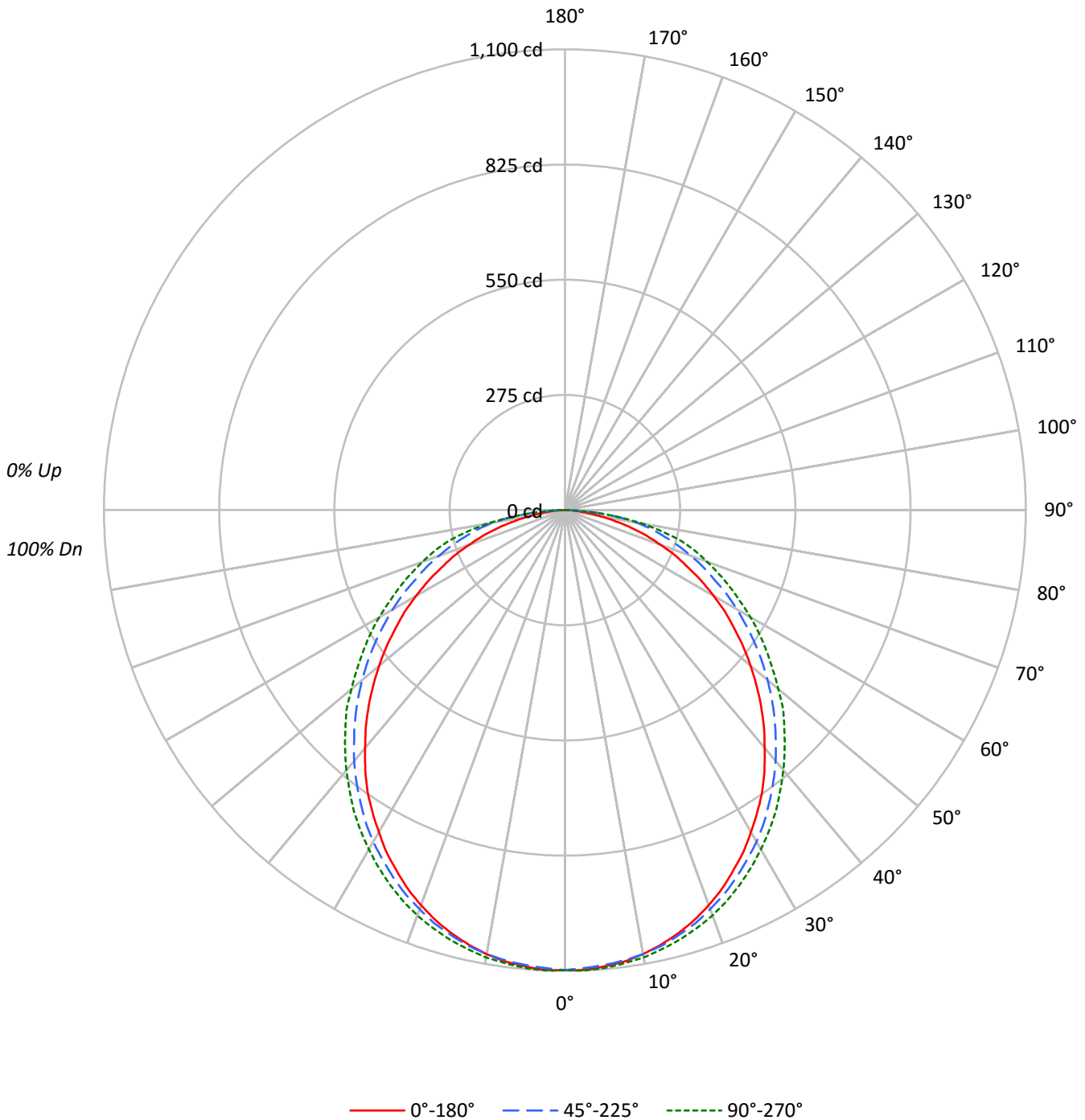
Input Watts (W): 22.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1478	1478	1478
5°	1477	1472	1482
10°	1470	1470	1481
15°	1456	1463	1478
20°	1437	1452	1474
25°	1411	1437	1465
30°	1379	1421	1453
35°	1349	1398	1442
40°	1303	1374	1425
45°	1260	1347	1409
50°	1212	1322	1393
55°	1158	1297	1379
60°	1104	1277	1376
65°	1034	1255	1385
70°	957	1262	1422
75°	857	1285	1502
80°	693	1361	1470
85°	522	1195	1166



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.0	3.3
10°-20°	297.1	9.5
20°-30°	446.6	14.3
30°-40°	531.9	17.0
40°-50°	544.4	17.4
50°-60°	490.1	15.7
60°-70°	384.9	12.3
70°-80°	249.8	8.0
80°-90°	77.3	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°	847.6	27.1
0°-40°	1379.5	44.1
0°-60°	2414.0	77.2
0°-90°	3126.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3126.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1098	1098	1098	1098	1098	
5°	1093	1095	1090	1096	1097	104
15°	1046	1048	1050	1060	1061	295
25°	950	958	968	984	987	438
35°	821	831	851	872	878	512
45°	662	678	708	735	741	511
55°	494	515	553	582	588	442
65°	325	350	394	427	435	323
75°	165	197	247	281	289	174
85°	34	63	77	76	76	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1098.2	1098.2	1098.2	1098.2	1098.2
2.5°	1099.2	1099.2	1094.2	1099.2	1100.2
5°	1093.2	1095.2	1090.2	1096.2	1097.2
7.5°	1087.3	1087.3	1084.3	1090.2	1091.2
10°	1076.3	1077.3	1076.3	1083.3	1084.3
12.5°	1062.4	1064.4	1065.4	1072.4	1073.4
15°	1045.6	1048.5	1050.5	1059.5	1061.4
17.5°	1026.7	1029.7	1034.6	1044.6	1046.6
20°	1003.9	1007.8	1013.8	1026.7	1029.7
22.5°	979.0	983.0	992.9	1004.8	1009.8
25°	950.2	958.2	968.1	984.0	987.0
27.5°	921.4	928.4	941.3	958.2	962.2
30°	887.7	898.6	914.5	931.4	935.3
32.5°	854.9	865.8	884.7	902.6	907.5
35°	821.2	831.1	850.9	871.8	877.8
37.5°	782.4	795.3	817.2	838.0	844.0
40°	741.7	757.6	782.4	804.3	811.2
42.5°	703.0	719.9	744.7	768.5	776.5
45°	662.3	678.2	708.0	734.8	740.7
47.5°	620.6	638.5	670.2	697.0	707.0
50°	578.9	597.7	631.5	659.3	665.3
52.5°	537.2	557.0	592.8	622.6	625.5
55°	493.5	515.3	553.1	581.9	587.8
57.5°	453.8	472.6	513.3	543.1	550.1
60°	410.1	430.9	474.6	502.4	511.4
62.5°	368.4	390.2	435.9	463.7	471.6
65°	324.7	349.5	394.2	427.0	434.9
67.5°	287.0	310.8	358.4	390.2	398.2
70°	243.3	270.1	320.7	353.5	361.4
72.5°	205.5	233.3	284.0	315.8	327.7
75°	164.8	196.6	247.2	281.0	288.9
77.5°	125.1	161.8	213.5	239.3	239.3
80°	89.4	128.1	175.7	187.7	189.7
82.5°	58.6	96.3	130.1	129.1	129.1
85°	33.8	62.6	77.4	75.5	75.5
87.5°	12.9	25.8	27.8	27.8	26.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)