

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: P313227

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-CP125-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: P313227  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
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-HRP-CP125-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125"  
POLYCARB 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: 3302.0 lumens  
Efficiency: N/A  
Efficacy: 85.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

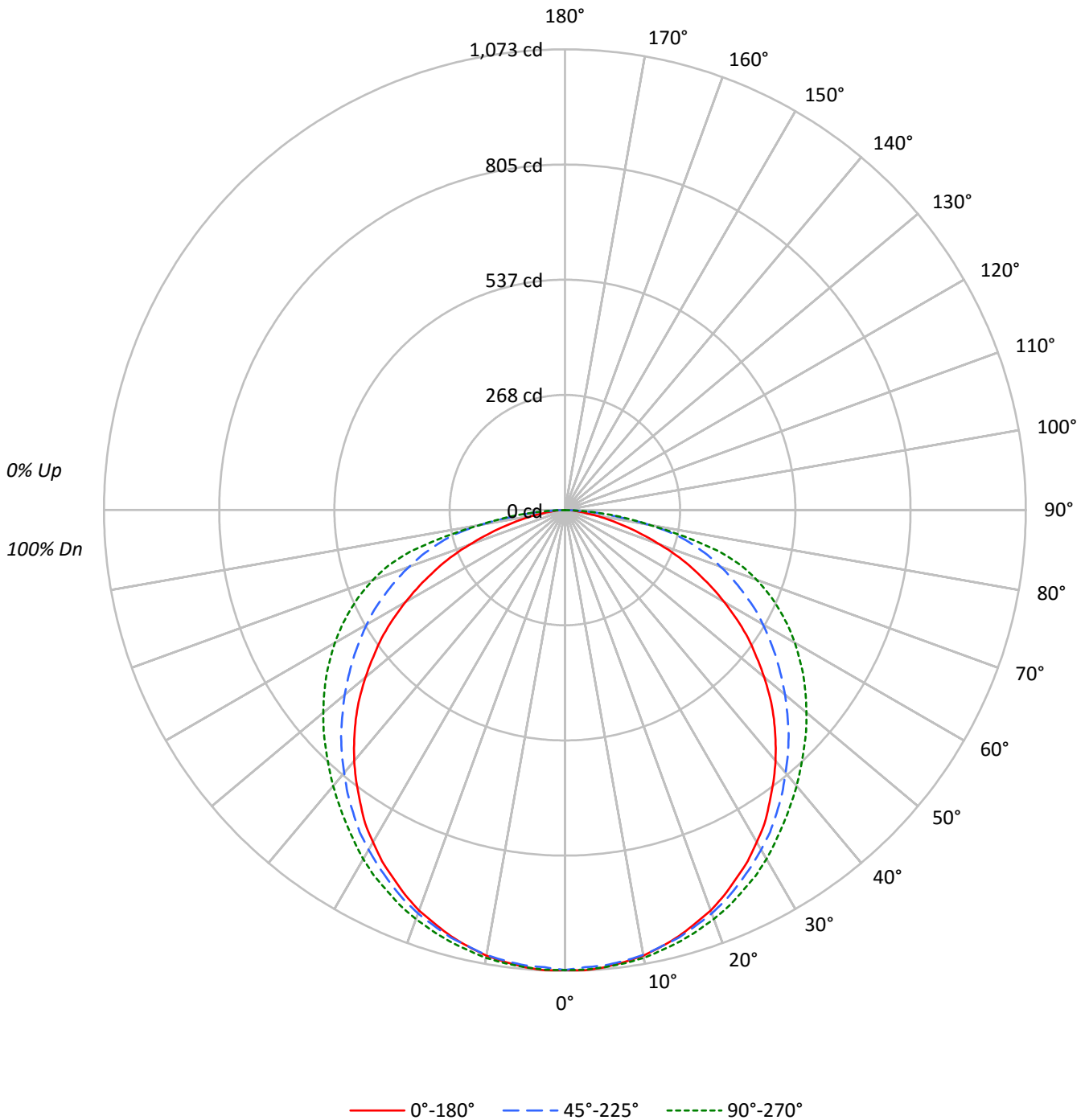
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1441	1441	1441
5°	1443	1438	1443
10°	1439	1437	1447
15°	1431	1435	1448
20°	1421	1431	1451
25°	1404	1424	1453
30°	1387	1420	1458
35°	1365	1412	1460
40°	1340	1403	1474
45°	1310	1402	1497
50°	1267	1401	1536
55°	1223	1411	1592
60°	1153	1432	1663
65°	1065	1465	1756
70°	930	1517	1871
75°	754	1595	1933
80°	557	1564	1564
85°	426	1152	1301



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.5	3.1
10°-20°	291.4	8.8
20°-30°	443.7	13.4
30°-40°	538.7	16.3
40°-50°	569.2	17.2
50°-60°	537.1	16.3
60°-70°	446.5	13.5
70°-80°	293.8	8.9
80°-90°	80.1	2.4
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°	836.6	25.3
0°-40°	1375.3	41.7
0°-60°	2481.6	75.2
0°-90°	3302.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3302.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1071	1071	1071	1071	1071	
5°	1069	1069	1064	1069	1069	101
15°	1027	1028	1030	1040	1040	290
25°	946	951	959	976	979	436
35°	831	840	860	882	889	520
45°	688	702	737	773	787	530
55°	521	543	601	658	679	464
65°	334	373	460	528	552	331
75°	145	212	307	364	372	156
85°	28	61	75	83	84	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1071.3	1071.3	1071.3	1071.3	1071.3
2.5°	1072.7	1071.3	1065.8	1071.3	1071.3
5°	1068.6	1068.6	1064.4	1068.6	1068.6
7.5°	1061.7	1061.7	1058.9	1064.4	1064.4
10°	1053.4	1053.4	1052.0	1058.9	1058.9
12.5°	1040.9	1042.3	1040.9	1049.2	1049.2
15°	1027.1	1028.5	1029.9	1039.5	1039.5
17.5°	1009.1	1011.9	1014.7	1025.7	1027.1
20°	992.5	993.9	999.5	1011.9	1013.3
22.5°	970.4	974.6	981.5	993.9	998.1
25°	945.5	951.1	959.4	976.0	978.7
27.5°	922.0	926.2	937.2	955.2	960.7
30°	893.0	899.9	913.7	931.7	938.6
32.5°	865.4	872.3	888.9	908.2	913.7
35°	830.8	840.5	859.8	882.0	888.9
37.5°	797.6	807.3	830.8	855.7	864.0
40°	763.1	774.1	799.0	828.0	839.1
42.5°	725.7	741.0	768.6	800.4	812.8
45°	688.4	702.2	736.8	772.7	786.6
47.5°	648.3	664.9	702.2	745.1	761.7
50°	605.5	626.2	669.1	716.1	734.0
52.5°	562.6	586.1	634.5	687.0	706.4
55°	521.2	543.3	601.3	658.0	678.7
57.5°	475.5	503.2	566.8	627.6	648.3
60°	428.5	458.9	532.2	595.8	617.9
62.5°	381.5	416.1	499.0	562.6	586.1
65°	334.5	373.2	460.3	528.1	551.6
67.5°	288.9	331.8	424.4	492.1	515.6
70°	236.4	290.3	385.7	452.0	475.5
72.5°	188.0	250.2	348.4	410.6	431.3
75°	145.1	211.5	306.9	363.6	371.9
77.5°	106.4	172.8	264.0	283.4	284.8
80°	71.9	138.2	201.8	199.1	201.8
82.5°	47.0	103.7	127.2	142.4	143.8
85°	27.6	60.8	74.6	82.9	84.3
87.5°	13.8	20.7	26.3	27.6	30.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)