

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: P313223

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-CA125-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: P313223
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-CA125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" 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: 3400.0 lumens
Efficiency: N/A
Efficacy: 86.3 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

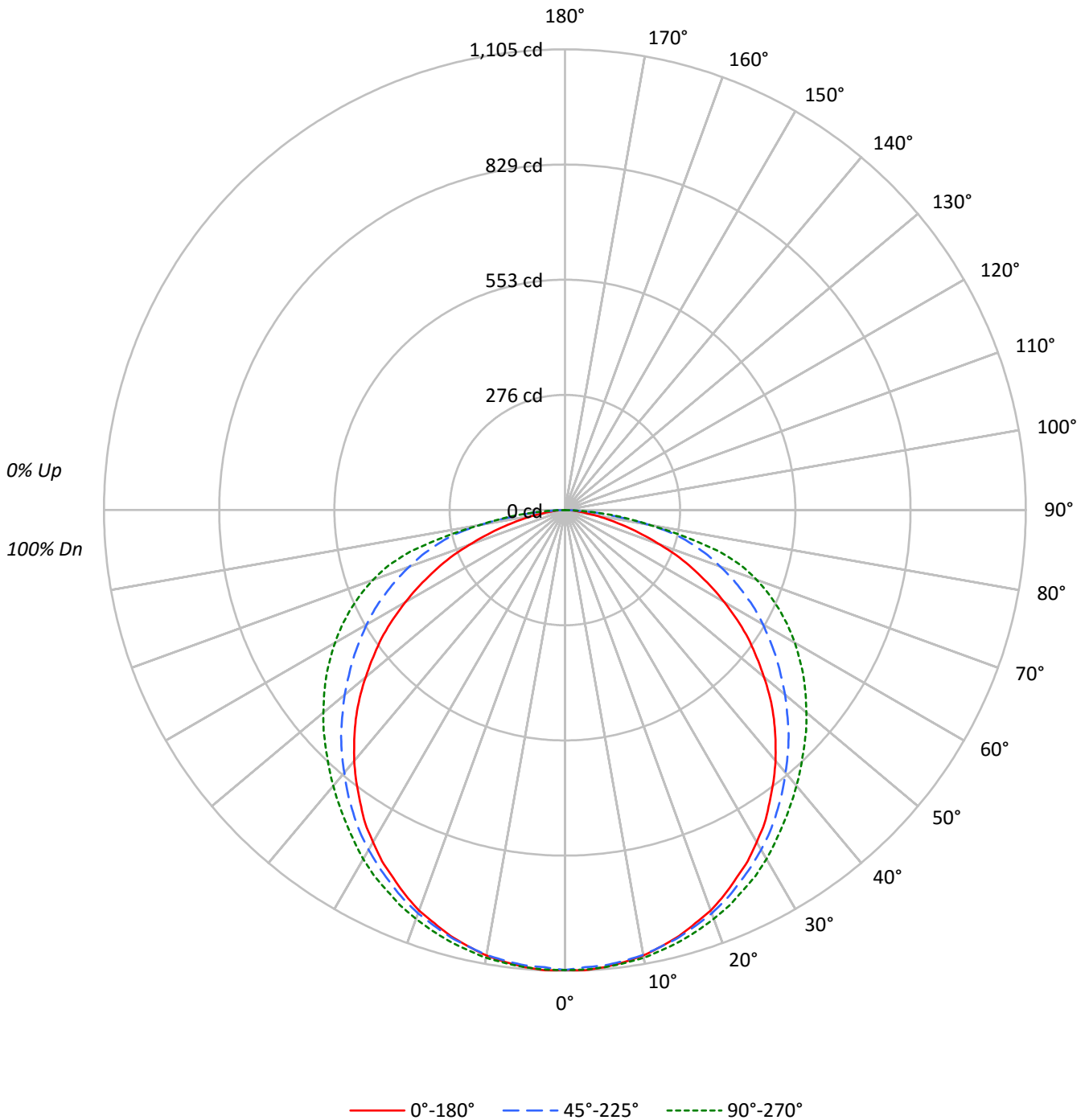
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1484	1484	1484
5°	1486	1480	1486
10°	1482	1480	1490
15°	1473	1477	1491
20°	1463	1474	1494
25°	1445	1466	1496
30°	1429	1462	1502
35°	1405	1454	1503
40°	1380	1445	1518
45°	1349	1444	1541
50°	1305	1442	1582
55°	1259	1453	1639
60°	1188	1475	1712
65°	1097	1509	1808
70°	958	1562	1926
75°	777	1643	1991
80°	573	1610	1610
85°	440	1187	1340



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.5	3.1
10°-20°	300.1	8.8
20°-30°	456.8	13.4
30°-40°	554.7	16.3
40°-50°	586.1	17.2
50°-60°	553.0	16.3
60°-70°	459.8	13.5
70°-80°	302.5	8.9
80°-90°	82.5	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°	861.4	25.3
0°-40°	1416.2	41.7
0°-60°	2555.2	75.2
0°-90°	3400.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3400.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1103	1103	1103	1103	1103	
5°	1100	1100	1096	1100	1100	105
15°	1058	1059	1060	1070	1070	298
25°	974	979	988	1005	1008	449
35°	856	865	885	908	915	536
45°	709	723	759	796	810	546
55°	537	559	619	678	699	478
65°	344	384	474	544	568	341
75°	150	218	316	374	383	161
85°	28	63	77	85	87	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1103.1	1103.1	1103.1	1103.1	1103.1
2.5°	1104.6	1103.1	1097.4	1103.1	1103.1
5°	1100.3	1100.3	1096.0	1100.3	1100.3
7.5°	1093.2	1093.2	1090.3	1096.0	1096.0
10°	1084.6	1084.6	1083.2	1090.3	1090.3
12.5°	1071.8	1073.2	1071.8	1080.4	1080.4
15°	1057.6	1059.0	1060.4	1070.4	1070.4
17.5°	1039.1	1041.9	1044.8	1056.2	1057.6
20°	1022.0	1023.4	1029.1	1041.9	1043.3
22.5°	999.2	1003.5	1010.6	1023.4	1027.7
25°	973.6	979.3	987.8	1004.9	1007.8
27.5°	949.4	953.7	965.1	983.6	989.3
30°	919.5	926.6	940.9	959.4	966.5
32.5°	891.0	898.2	915.2	935.2	940.9
35°	855.5	865.4	885.4	908.1	915.2
37.5°	821.3	831.3	855.5	881.1	889.6
40°	785.7	797.1	822.7	852.6	864.0
42.5°	747.3	762.9	791.4	824.1	837.0
45°	708.9	723.1	758.7	795.7	809.9
47.5°	667.6	684.7	723.1	767.2	784.3
50°	623.4	644.8	688.9	737.3	755.8
52.5°	579.3	603.5	653.3	707.4	727.4
55°	536.6	559.4	619.2	677.5	698.9
57.5°	489.6	518.1	583.6	646.2	667.6
60°	441.3	472.6	548.0	613.5	636.3
62.5°	392.9	428.4	513.8	579.3	603.5
65°	344.5	384.3	474.0	543.7	567.9
67.5°	297.5	341.6	437.0	506.7	530.9
70°	243.4	298.9	397.1	465.5	489.6
72.5°	193.6	257.6	358.7	422.7	444.1
75°	149.5	217.8	316.0	374.4	382.9
77.5°	109.6	177.9	271.9	291.8	293.2
80°	74.0	142.3	207.8	205.0	207.8
82.5°	48.4	106.8	131.0	146.6	148.0
85°	28.5	62.6	76.9	85.4	86.8
87.5°	14.2	21.4	27.0	28.5	31.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)