

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: P313198

Luminaire Tested: **24FCZ2-45HE-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: P313198
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: 24FCZ2-45HE-UNV-L83050-HRP-CA125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 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: 3364.0 lumens
Efficiency: N/A
Efficacy: 94.8 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

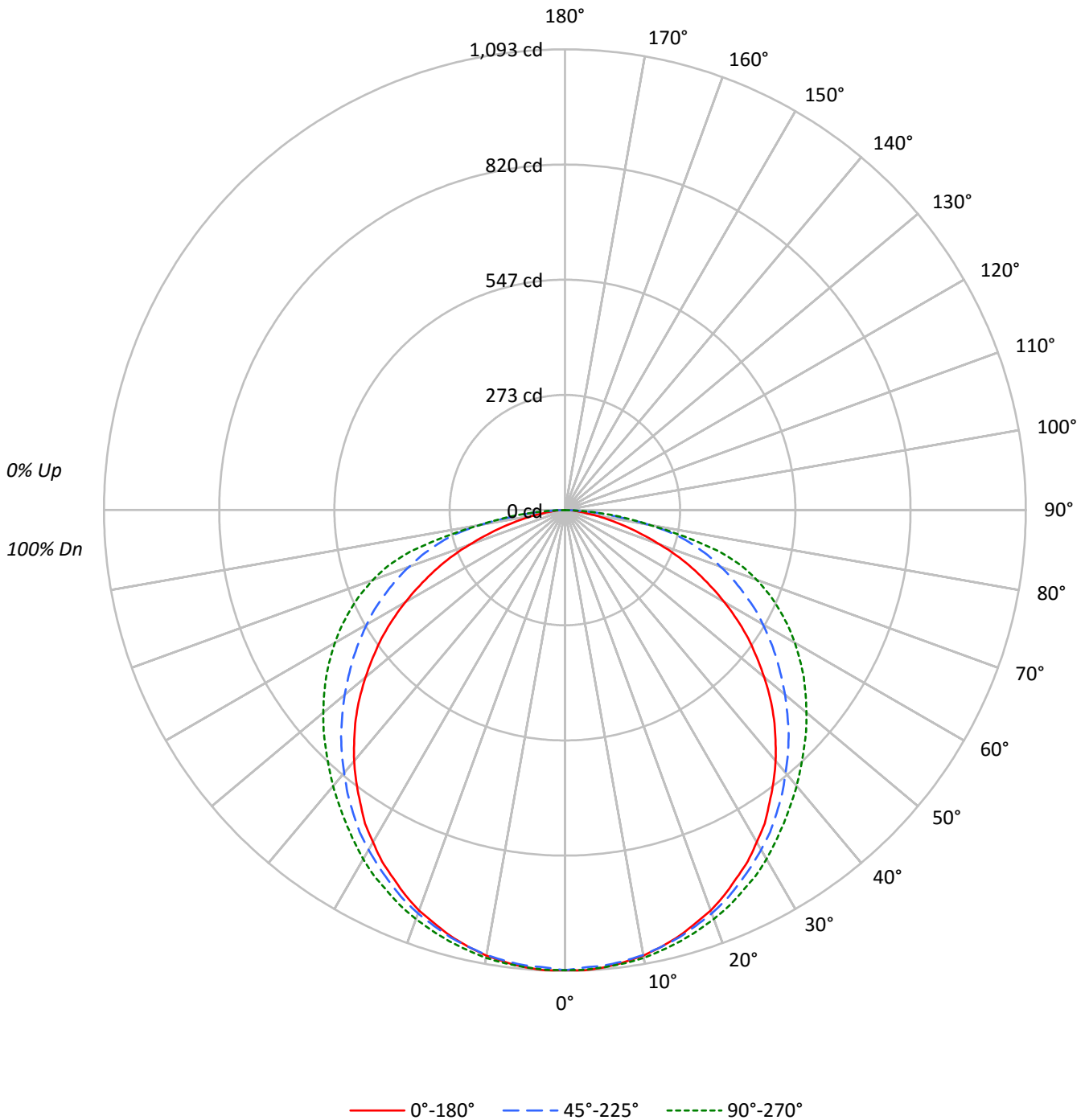
Input Watts (W): 35.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1469	1469	1469
5°	1470	1465	1470
10°	1466	1464	1474
15°	1458	1461	1475
20°	1448	1458	1478
25°	1430	1451	1480
30°	1413	1446	1486
35°	1390	1439	1487
40°	1365	1430	1502
45°	1334	1428	1525
50°	1291	1427	1565
55°	1245	1437	1622
60°	1175	1459	1694
65°	1085	1493	1789
70°	947	1546	1906
75°	769	1625	1969
80°	567	1593	1593
85°	435	1173	1326



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.4	3.1
10°-20°	296.9	8.8
20°-30°	452.0	13.4
30°-40°	548.9	16.3
40°-50°	579.9	17.2
50°-60°	547.2	16.3
60°-70°	454.9	13.5
70°-80°	299.3	8.9
80°-90°	81.6	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°	852.3	25.3
0°-40°	1401.2	41.7
0°-60°	2528.2	75.2
0°-90°	3364.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3364.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1092	1092	1092	1092	1092	
5°	1089	1089	1084	1089	1089	103
15°	1046	1048	1049	1059	1059	295
25°	963	969	977	994	997	444
35°	846	856	876	898	906	530
45°	701	715	751	787	801	540
55°	531	554	613	670	692	473
65°	341	380	469	538	562	337
75°	148	216	313	370	379	159
85°	28	62	76	84	86	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1091.5	1091.5	1091.5	1091.5	1091.5
2.5°	1092.9	1091.5	1085.8	1091.5	1091.5
5°	1088.6	1088.6	1084.4	1088.6	1088.6
7.5°	1081.6	1081.6	1078.8	1084.4	1084.4
10°	1073.1	1073.1	1071.7	1078.8	1078.8
12.5°	1060.5	1061.9	1060.5	1068.9	1068.9
15°	1046.4	1047.8	1049.2	1059.1	1059.1
17.5°	1028.1	1030.9	1033.7	1045.0	1046.4
20°	1011.2	1012.6	1018.2	1030.9	1032.3
22.5°	988.6	992.9	999.9	1012.6	1016.8
25°	963.3	968.9	977.4	994.3	997.1
27.5°	939.4	943.6	954.8	973.2	978.8
30°	909.8	916.8	930.9	949.2	956.3
32.5°	881.6	888.7	905.6	925.3	930.9
35°	846.4	856.3	876.0	898.5	905.6
37.5°	812.6	822.5	846.4	871.8	880.2
40°	777.4	788.7	814.0	843.6	854.9
42.5°	739.4	754.9	783.0	815.4	828.1
45°	701.3	715.4	750.6	787.3	801.3
47.5°	660.5	677.4	715.4	759.1	776.0
50°	616.8	638.0	681.6	729.5	747.8
52.5°	573.2	597.1	646.4	699.9	719.7
55°	530.9	553.5	612.6	670.4	691.5
57.5°	484.5	512.6	577.4	639.4	660.5
60°	436.6	467.6	542.2	607.0	629.5
62.5°	388.7	423.9	508.4	573.2	597.1
65°	340.8	380.2	469.0	538.0	561.9
67.5°	294.3	338.0	432.4	501.4	525.3
70°	240.8	295.7	392.9	460.5	484.5
72.5°	191.5	254.9	354.9	418.3	439.4
75°	147.9	215.5	312.6	370.4	378.8
77.5°	108.4	176.0	269.0	288.7	290.1
80°	73.2	140.8	205.6	202.8	205.6
82.5°	47.9	105.6	129.6	145.1	146.5
85°	28.2	62.0	76.0	84.5	85.9
87.5°	14.1	21.1	26.8	28.2	31.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)