

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: P313228

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-CP125-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: P313228
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125"
POLYCARB 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: 3334.0 lumens
Efficiency: N/A
Efficacy: 84.6 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

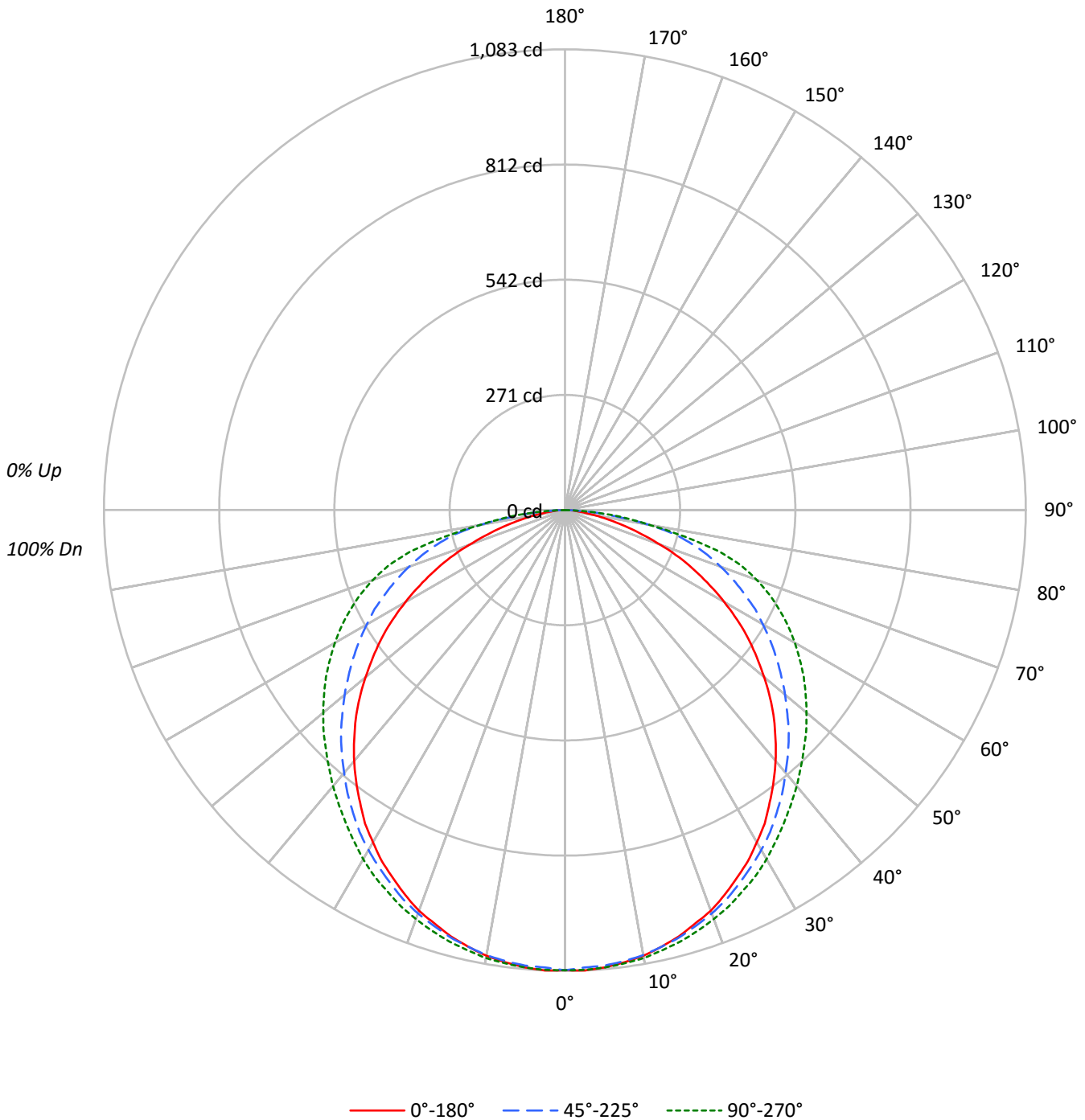
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1455	1455	1455
5°	1457	1452	1457
10°	1453	1451	1461
15°	1445	1448	1462
20°	1435	1445	1465
25°	1417	1438	1467
30°	1401	1433	1472
35°	1378	1426	1474
40°	1353	1417	1488
45°	1323	1415	1511
50°	1280	1414	1551
55°	1234	1424	1608
60°	1164	1446	1679
65°	1075	1480	1773
70°	939	1532	1889
75°	762	1611	1952
80°	563	1579	1579
85°	431	1164	1314



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.5	3.1
10°-20°	294.3	8.8
20°-30°	448.0	13.4
30°-40°	544.0	16.3
40°-50°	574.7	17.2
50°-60°	542.3	16.3
60°-70°	450.9	13.5
70°-80°	296.6	8.9
80°-90°	80.9	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°	844.7	25.3
0°-40°	1388.7	41.7
0°-60°	2505.6	75.2
0°-90°	3334.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3334.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1082	1082	1082	1082	1082	
5°	1079	1079	1075	1079	1079	102
15°	1037	1038	1040	1050	1050	292
25°	955	960	969	985	988	440
35°	839	849	868	890	898	525
45°	695	709	744	780	794	535
55°	526	548	607	664	685	469
65°	338	377	465	533	557	334
75°	147	214	310	367	376	158
85°	28	61	75	84	85	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1081.7	1081.7	1081.7	1081.7	1081.7
2.5°	1083.1	1081.7	1076.1	1081.7	1081.7
5°	1078.9	1078.9	1074.7	1078.9	1078.9
7.5°	1071.9	1071.9	1069.2	1074.7	1074.7
10°	1063.6	1063.6	1062.2	1069.2	1069.2
12.5°	1051.0	1052.4	1051.0	1059.4	1059.4
15°	1037.1	1038.5	1039.8	1049.6	1049.6
17.5°	1018.9	1021.7	1024.5	1035.7	1037.1
20°	1002.2	1003.6	1009.1	1021.7	1023.1
22.5°	979.8	984.0	991.0	1003.6	1007.7
25°	954.7	960.3	968.7	985.4	988.2
27.5°	931.0	935.2	946.3	964.5	970.1
30°	901.7	908.6	922.6	940.7	947.7
32.5°	873.7	880.7	897.5	917.0	922.6
35°	838.9	848.6	868.2	890.5	897.5
37.5°	805.4	815.1	838.9	864.0	872.4
40°	770.5	781.6	806.8	836.1	847.2
42.5°	732.8	748.1	776.0	808.1	820.7
45°	695.1	709.0	743.9	780.2	794.2
47.5°	654.6	671.4	709.0	752.3	769.1
50°	611.3	632.3	675.6	723.0	741.2
52.5°	568.1	591.8	640.7	693.7	713.2
55°	526.2	548.5	607.2	664.4	685.3
57.5°	480.1	508.1	572.3	633.7	654.6
60°	432.7	463.4	537.4	601.6	623.9
62.5°	385.2	420.1	503.9	568.1	591.8
65°	337.8	376.9	464.8	533.2	556.9
67.5°	291.7	335.0	428.5	496.9	520.6
70°	238.7	293.1	389.4	456.4	480.1
72.5°	189.8	252.6	351.7	414.5	435.5
75°	146.6	213.6	309.9	367.1	375.5
77.5°	107.5	174.5	266.6	286.1	287.5
80°	72.6	139.6	203.8	201.0	203.8
82.5°	47.5	104.7	128.4	143.8	145.2
85°	27.9	61.4	75.4	83.7	85.1
87.5°	14.0	20.9	26.5	27.9	30.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)