

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: P313701

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CP125-W2A-U-3500K**

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: P313701
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L83050-RDP-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" POLYCARB SHEET
Light Source: (336) 3500K 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: 3624.0 lumens
Efficiency: N/A
Efficacy: 76.1 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

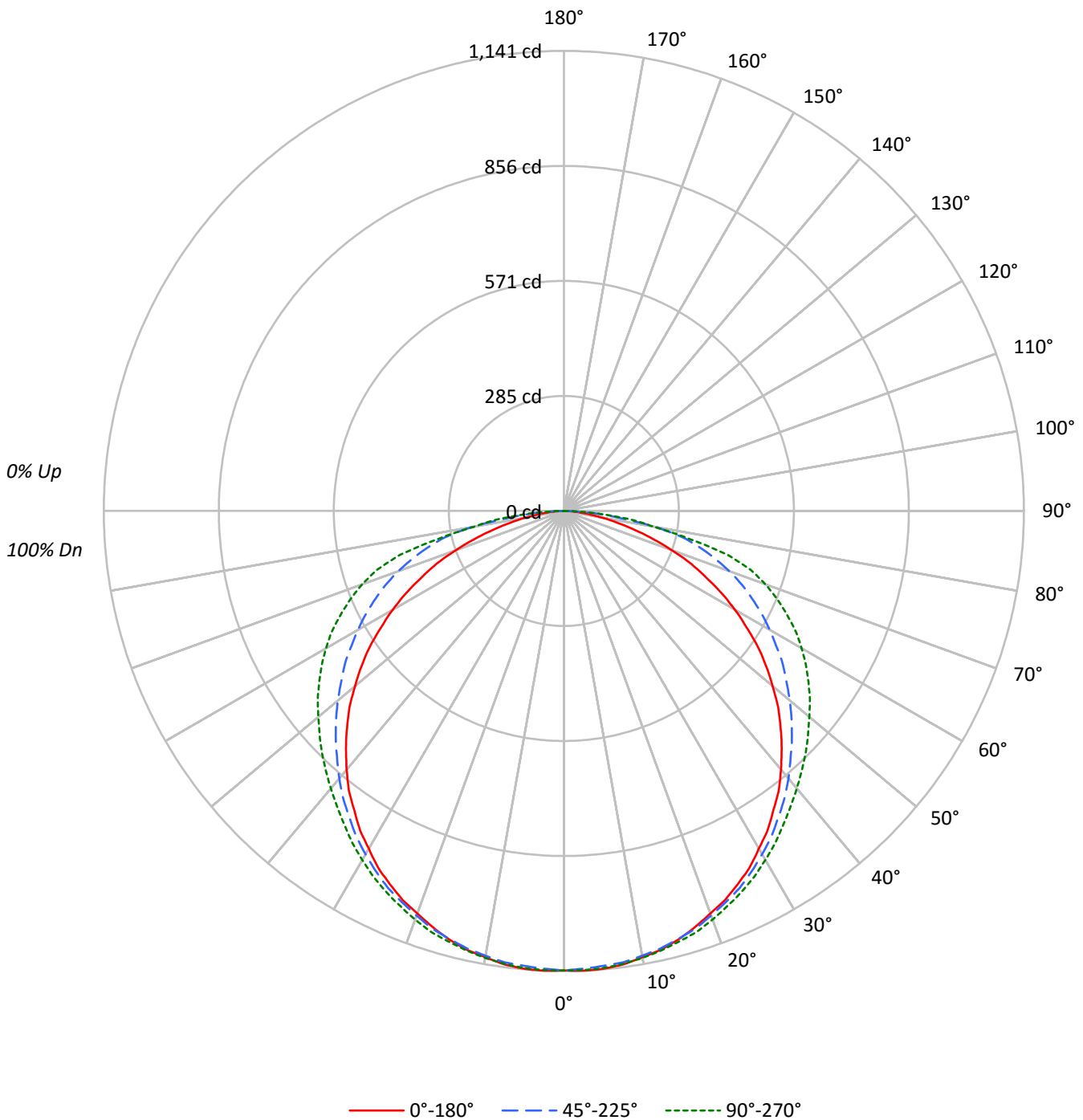
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1533	1533	1533
5°	1539	1530	1537
10°	1535	1530	1537
15°	1532	1530	1540
20°	1521	1529	1544
25°	1516	1532	1548
30°	1503	1528	1553
35°	1488	1523	1559
40°	1471	1522	1579
45°	1447	1522	1614
50°	1415	1531	1663
55°	1379	1556	1737
60°	1320	1587	1833
65°	1236	1642	1946
70°	1124	1718	2093
75°	953	1813	2187
80°	752	1825	1769
85°	556	1388	1555



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	3.0
10°-20°	311.1	8.6
20°-30°	475.8	13.1
30°-40°	581.6	16.0
40°-50°	619.9	17.1
50°-60°	592.7	16.4
60°-70°	502.1	13.9
70°-80°	337.5	9.3
80°-90°	95.2	2.6
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°	895.0	24.7
0°-40°	1476.7	40.7
0°-60°	2689.3	74.2
0°-90°	3624.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3624.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1140	1140	1140	1140	1140	
5°	1140	1138	1132	1138	1138	108
15°	1100	1100	1098	1107	1106	310
25°	1021	1025	1032	1041	1043	471
35°	906	913	928	946	949	568
45°	760	773	800	834	848	586
55°	588	609	663	715	741	524
65°	388	428	516	584	611	385
75°	183	250	349	408	421	196
85°	36	74	90	97	101	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1139.6	1139.6	1139.6	1139.6	1139.6
2.5°	1141.4	1141.4	1136.0	1139.6	1139.6
5°	1139.6	1137.8	1132.5	1137.8	1137.8
7.5°	1134.3	1132.5	1128.9	1134.3	1132.5
10°	1123.5	1123.5	1119.9	1125.3	1125.3
12.5°	1114.5	1112.7	1110.9	1118.1	1116.3
15°	1100.1	1100.1	1098.3	1107.3	1105.5
17.5°	1082.1	1083.9	1085.7	1092.9	1094.7
20°	1062.4	1065.9	1067.7	1078.5	1078.5
22.5°	1044.4	1046.2	1049.8	1060.6	1060.6
25°	1021.0	1024.6	1031.8	1040.8	1042.6
27.5°	997.6	999.4	1008.4	1021.0	1022.8
30°	967.1	972.5	983.3	997.6	999.4
32.5°	940.1	945.5	958.1	972.5	976.1
35°	906.0	913.2	927.5	945.5	949.1
37.5°	875.4	880.8	898.8	918.5	923.9
40°	837.7	848.4	866.4	889.8	898.8
42.5°	799.9	810.7	832.3	862.8	873.6
45°	760.4	772.9	799.9	834.1	848.4
47.5°	720.8	735.2	765.8	805.3	821.5
50°	675.9	693.9	731.6	776.5	794.5
52.5°	632.7	654.3	695.7	746.0	769.3
55°	587.8	609.4	663.3	715.4	740.6
57.5°	537.5	566.2	625.5	684.9	711.8
60°	490.7	517.7	589.6	654.3	681.3
62.5°	440.4	476.3	553.6	622.0	648.9
65°	388.3	427.8	515.9	584.2	611.2
67.5°	341.5	384.7	478.1	546.5	573.4
70°	285.8	339.7	436.8	505.1	532.1
72.5°	233.7	293.0	393.7	460.2	485.3
75°	183.3	249.9	348.7	408.0	420.6
77.5°	136.6	206.7	302.0	327.2	318.2
80°	97.1	165.4	235.5	222.9	228.3
82.5°	62.9	125.8	145.6	165.4	170.8
85°	36.0	73.7	89.9	97.1	100.7
87.5°	16.2	27.0	36.0	36.0	34.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)