

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: P309590

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-HRP-CA08-W2A-U-2700K**

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: P309590
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: 24FCZ2-55HE-UNV-L82765-HRP-CA08-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 2700K 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: 3532.0 lumens
Efficiency: N/A
Efficacy: 81.9 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

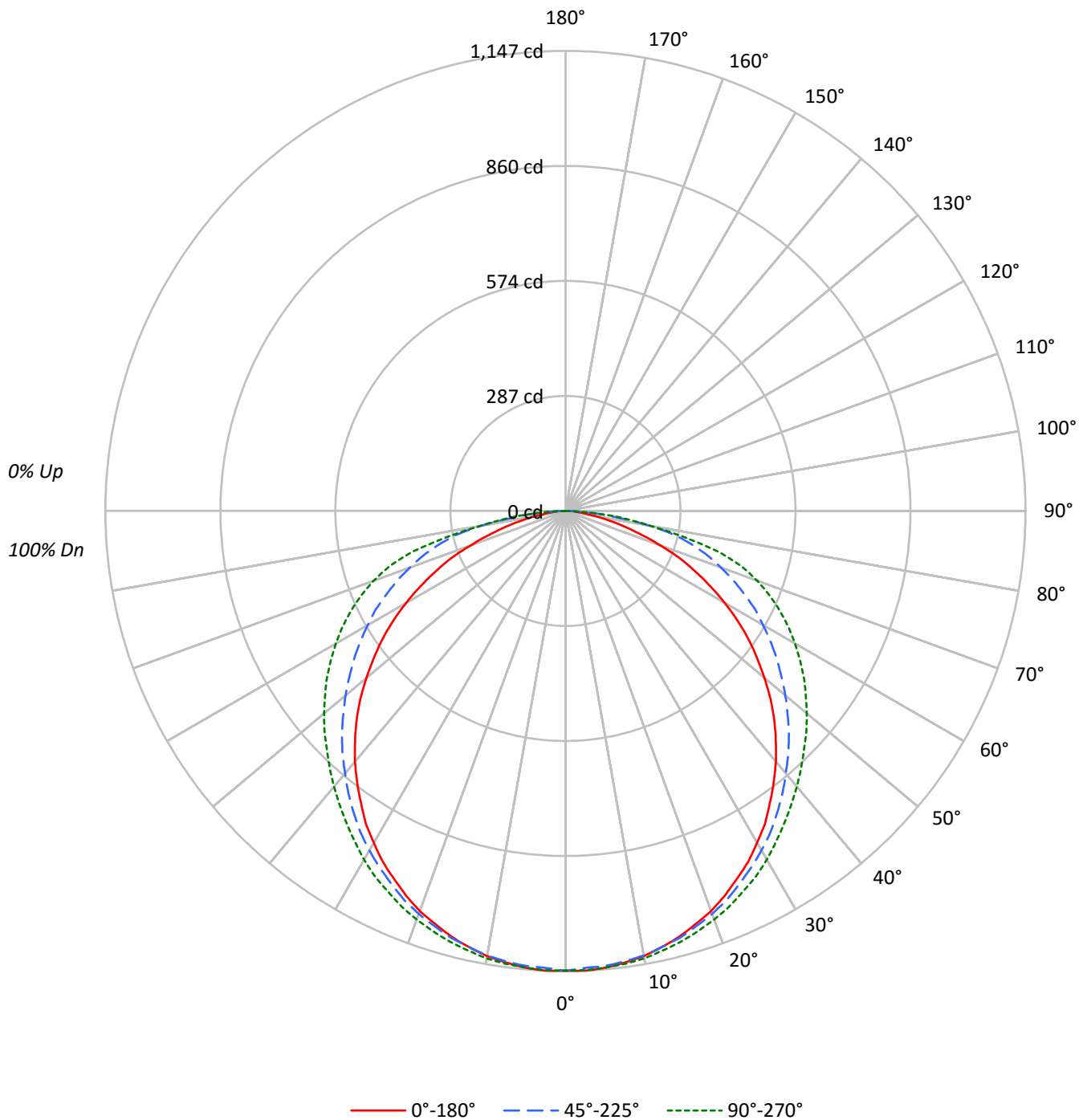
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1542	1542	1542
5°	1544	1538	1544
10°	1539	1537	1548
15°	1530	1534	1549
20°	1520	1531	1552
25°	1502	1523	1554
30°	1484	1519	1560
35°	1460	1511	1562
40°	1434	1501	1576
45°	1401	1500	1601
50°	1356	1498	1644
55°	1308	1509	1703
60°	1234	1532	1779
65°	1139	1568	1878
70°	995	1623	2001
75°	807	1707	2068
80°	596	1673	1673
85°	457	1232	1392



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.6	3.1
10°-20°	311.7	8.8
20°-30°	474.6	13.4
30°-40°	576.3	16.3
40°-50°	608.8	17.2
50°-60°	574.5	16.3
60°-70°	477.7	13.5
70°-80°	314.2	8.9
80°-90°	85.7	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°	894.9	25.3
0°-40°	1471.1	41.7
0°-60°	2654.4	75.2
0°-90°	3532.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3532.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1146	1146	1146	1146	1146	
5°	1143	1143	1139	1143	1143	109
15°	1099	1100	1102	1112	1112	310
25°	1011	1017	1026	1044	1047	467
35°	889	899	920	943	951	556
45°	736	751	788	827	841	567
55°	558	581	643	704	726	497
65°	358	399	492	565	590	354
75°	155	226	328	389	398	167
85°	30	65	80	89	90	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1146.0	1146.0	1146.0	1146.0	1146.0
2.5°	1147.4	1146.0	1140.0	1146.0	1146.0
5°	1143.0	1143.0	1138.6	1143.0	1143.0
7.5°	1135.6	1135.6	1132.7	1138.6	1138.6
10°	1126.7	1126.7	1125.3	1132.7	1132.7
12.5°	1113.4	1114.9	1113.4	1122.3	1122.3
15°	1098.6	1100.1	1101.6	1112.0	1112.0
17.5°	1079.4	1082.4	1085.3	1097.2	1098.6
20°	1061.7	1063.2	1069.1	1082.4	1083.9
22.5°	1038.0	1042.5	1049.8	1063.2	1067.6
25°	1011.4	1017.3	1026.2	1043.9	1046.9
27.5°	986.3	990.7	1002.5	1021.8	1027.7
30°	955.2	962.6	977.4	996.6	1004.0
32.5°	925.6	933.0	950.8	971.5	977.4
35°	888.7	899.0	919.7	943.4	950.8
37.5°	853.2	863.5	888.7	915.3	924.2
40°	816.2	828.0	854.7	885.7	897.5
42.5°	776.3	792.6	822.1	856.1	869.5
45°	736.4	751.2	788.1	826.6	841.4
47.5°	693.5	711.2	751.2	797.0	814.7
50°	647.7	669.8	715.7	765.9	785.2
52.5°	601.8	627.0	678.7	734.9	755.6
55°	557.5	581.1	643.2	703.8	726.0
57.5°	508.7	538.2	606.2	671.3	693.5
60°	458.4	490.9	569.3	637.3	661.0
62.5°	408.1	445.1	533.8	601.8	627.0
65°	357.8	399.2	492.4	564.8	590.0
67.5°	309.0	354.9	453.9	526.4	551.5
70°	252.9	310.5	412.5	483.5	508.7
72.5°	201.1	267.6	372.6	439.2	461.3
75°	155.3	226.2	328.3	388.9	397.8
77.5°	113.9	184.8	282.4	303.1	304.6
80°	76.9	147.9	215.9	212.9	215.9
82.5°	50.3	110.9	136.0	152.3	153.8
85°	29.6	65.1	79.8	88.7	90.2
87.5°	14.8	22.2	28.1	29.6	32.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)