

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: P314218

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-S-CA08-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: P314218  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-35HE-UNV-L83050-S-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" 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: 3583.0 lumens  
Efficiency: N/A  
Efficacy: 131.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

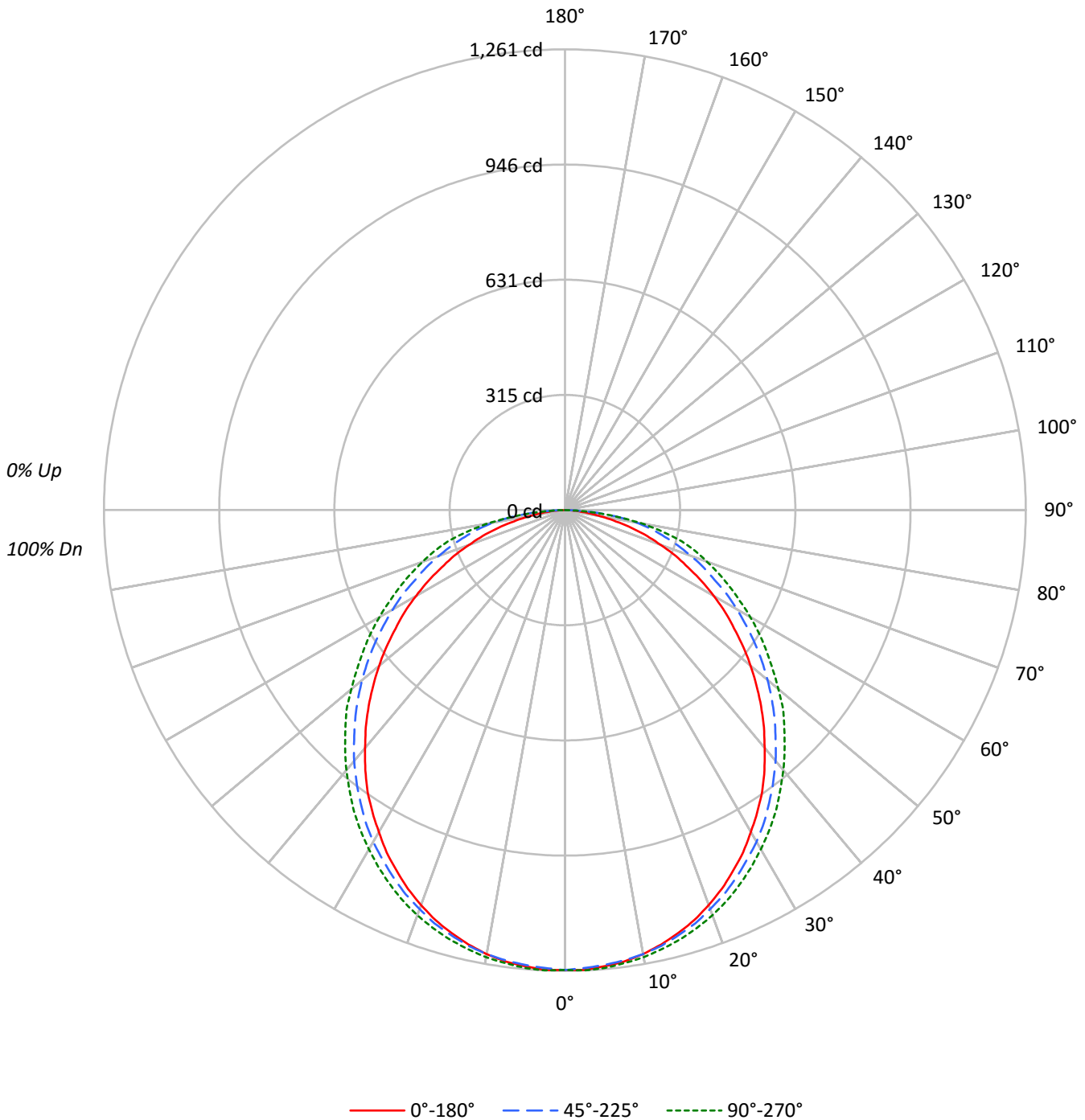
Input Watts (W): 27.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1694	1694	1694
5°	1692	1688	1699
10°	1686	1686	1698
15°	1669	1677	1695
20°	1647	1664	1690
25°	1617	1647	1680
30°	1581	1629	1666
35°	1546	1602	1653
40°	1493	1575	1633
45°	1444	1544	1615
50°	1389	1515	1596
55°	1327	1487	1581
60°	1265	1464	1577
65°	1185	1438	1587
70°	1097	1446	1630
75°	982	1473	1722
80°	793	1561	1684
85°	597	1371	1335



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.2	3.3
10°-20°	340.5	9.5
20°-30°	511.8	14.3
30°-40°	609.7	17.0
40°-50°	624.0	17.4
50°-60°	561.8	15.7
60°-70°	441.2	12.3
70°-80°	286.3	8.0
80°-90°	88.6	2.5
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°	971.5	27.1
0°-40°	1581.2	44.1
0°-60°	2766.9	77.2
0°-90°	3583.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3583.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1259	1259	1259	1259	1259	
5°	1253	1255	1250	1256	1258	119
15°	1198	1202	1204	1214	1217	338
25°	1089	1098	1110	1128	1131	502
35°	941	953	975	999	1006	587
45°	759	777	812	842	849	585
55°	566	591	634	667	674	507
65°	372	401	452	489	498	370
75°	189	225	283	322	331	200
85°	39	72	89	86	86	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1258.7	1258.7	1258.7	1258.7	1258.7
2.5°	1259.9	1259.9	1254.2	1259.9	1261.0
5°	1253.0	1255.3	1249.6	1256.5	1257.6
7.5°	1246.2	1246.2	1242.8	1249.6	1250.8
10°	1233.7	1234.8	1233.7	1241.7	1242.8
12.5°	1217.8	1220.0	1221.2	1229.1	1230.3
15°	1198.4	1201.8	1204.1	1214.3	1216.6
17.5°	1176.8	1180.2	1185.9	1197.3	1199.6
20°	1150.6	1155.2	1162.0	1176.8	1180.2
22.5°	1122.2	1126.7	1138.1	1151.8	1157.4
25°	1089.2	1098.3	1109.6	1127.9	1131.3
27.5°	1056.2	1064.1	1078.9	1098.3	1102.8
30°	1017.5	1030.0	1048.2	1067.5	1072.1
32.5°	979.9	992.4	1014.0	1034.5	1040.2
35°	941.2	952.6	975.3	999.2	1006.1
37.5°	896.8	911.6	936.7	960.6	967.4
40°	850.2	868.4	896.8	921.9	929.8
42.5°	805.8	825.1	853.6	880.9	890.0
45°	759.1	777.3	811.5	842.2	849.0
47.5°	711.3	731.8	768.2	798.9	810.3
50°	663.5	685.1	723.8	755.7	762.5
52.5°	615.7	638.5	679.4	713.6	717.0
55°	565.6	590.7	633.9	666.9	673.8
57.5°	520.1	541.7	588.4	622.5	630.5
60°	470.0	493.9	544.0	575.9	586.1
62.5°	422.2	447.3	499.6	531.5	540.6
65°	372.2	400.6	451.8	489.4	498.5
67.5°	328.9	356.2	410.9	447.3	456.4
70°	278.8	309.6	367.6	405.2	414.3
72.5°	235.6	267.5	325.5	361.9	375.6
75°	188.9	225.3	283.4	322.1	331.2
77.5°	143.4	185.5	244.7	274.3	274.3
80°	102.4	146.8	201.4	215.1	217.4
82.5°	67.1	110.4	149.1	148.0	148.0
85°	38.7	71.7	88.8	86.5	86.5
87.5°	14.8	29.6	31.9	31.9	30.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)