

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: P311345

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-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: P311345  
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: 24FCZ2-40HE-UNV-L82765-S-CA08-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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**

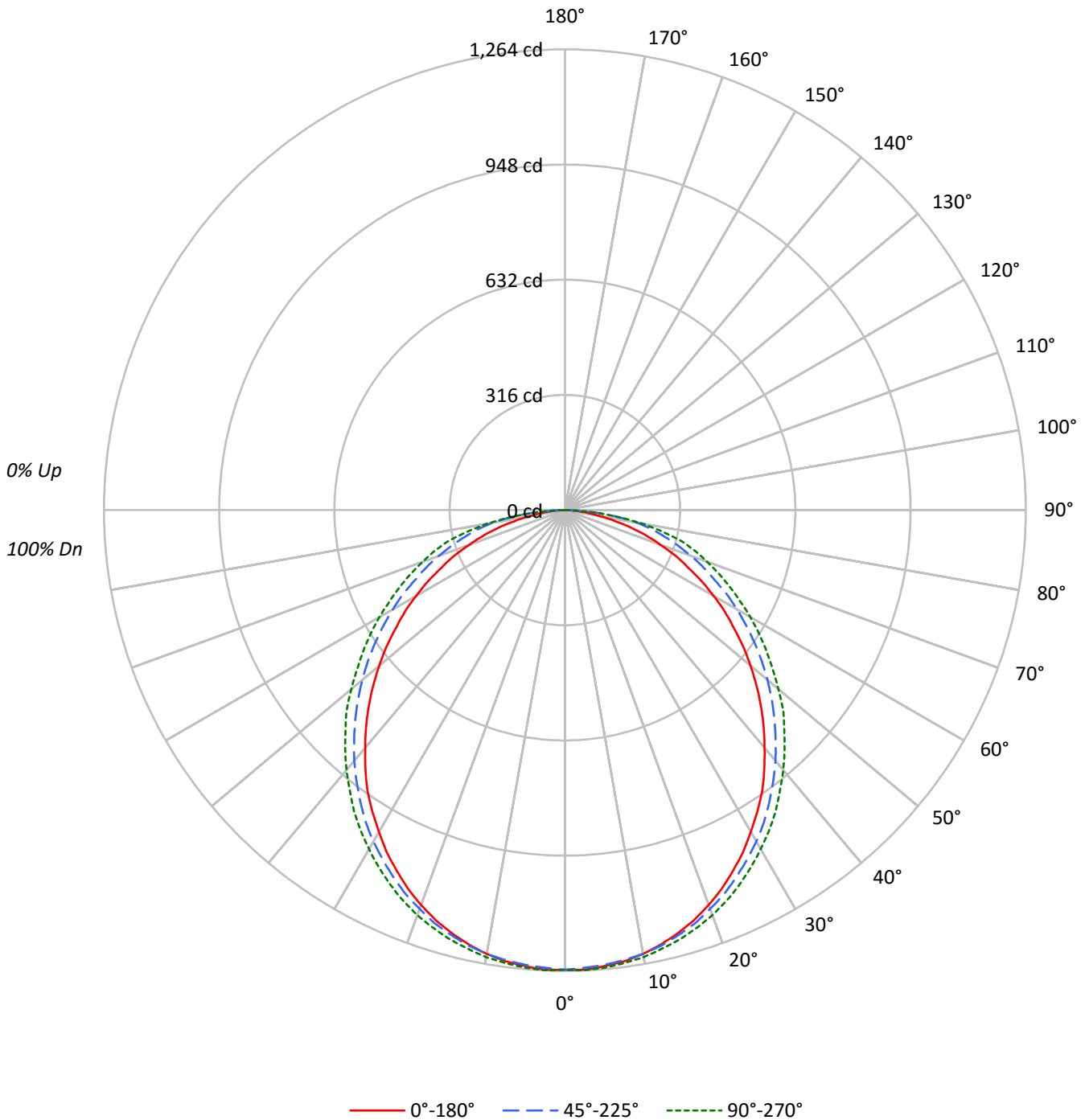
Lumens per Lamp: N/A  
Luminaire Lumens: 3590.0 lumens  
Efficiency: N/A  
Efficacy: 118.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.4  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1697	1697	1697
5°	1696	1691	1702
10°	1689	1689	1701
15°	1673	1681	1698
20°	1651	1667	1693
25°	1620	1651	1683
30°	1584	1632	1669
35°	1549	1605	1656
40°	1496	1578	1636
45°	1447	1547	1619
50°	1392	1518	1599
55°	1329	1490	1584
60°	1267	1467	1580
65°	1187	1441	1590
70°	1099	1449	1633
75°	984	1476	1725
80°	795	1564	1688
85°	599	1372	1338



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.4	3.3
10°-20°	341.2	9.5
20°-30°	512.8	14.3
30°-40°	610.9	17.0
40°-50°	625.2	17.4
50°-60°	562.9	15.7
60°-70°	442.0	12.3
70°-80°	286.9	8.0
80°-90°	88.7	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°	973.4	27.1
0°-40°	1584.3	44.1
0°-60°	2772.3	77.2
0°-90°	3590.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3590.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1261	1261	1261	1261	1261	
5°	1256	1258	1252	1259	1260	119
15°	1201	1204	1206	1217	1219	339
25°	1091	1100	1112	1130	1134	503
35°	943	954	977	1001	1008	588
45°	761	779	813	844	851	586
55°	567	592	635	668	675	508
65°	373	401	453	490	500	371
75°	189	226	284	323	332	200
85°	39	72	89	87	87	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1261.2	1261.2	1261.2	1261.2	1261.2
2.5°	1262.3	1262.3	1256.6	1262.3	1263.5
5°	1255.5	1257.8	1252.1	1258.9	1260.1
7.5°	1248.6	1248.6	1245.2	1252.1	1253.2
10°	1236.1	1237.2	1236.1	1244.1	1245.2
12.5°	1220.1	1222.4	1223.6	1231.5	1232.7
15°	1200.8	1204.2	1206.5	1216.7	1219.0
17.5°	1179.1	1182.5	1188.2	1199.6	1201.9
20°	1152.9	1157.4	1164.3	1179.1	1182.5
22.5°	1124.4	1128.9	1140.3	1154.0	1159.7
25°	1091.3	1100.4	1111.8	1130.1	1133.5
27.5°	1058.2	1066.2	1081.0	1100.4	1105.0
30°	1019.4	1032.0	1050.2	1069.6	1074.2
32.5°	981.8	994.4	1016.0	1036.5	1042.2
35°	943.0	954.4	977.3	1001.2	1008.0
37.5°	898.6	913.4	938.5	962.4	969.3
40°	851.8	870.1	898.6	923.7	931.6
42.5°	807.3	826.7	855.2	882.6	891.7
45°	760.6	778.8	813.0	843.8	850.7
47.5°	712.7	733.2	769.7	800.5	811.9
50°	664.8	686.5	725.2	757.2	764.0
52.5°	616.9	639.7	680.8	715.0	718.4
55°	566.7	591.8	635.2	668.2	675.1
57.5°	521.1	542.8	589.5	623.8	631.7
60°	471.0	494.9	545.1	577.0	587.3
62.5°	423.1	448.1	500.6	532.5	541.7
65°	372.9	401.4	452.7	490.3	499.5
67.5°	329.6	356.9	411.7	448.1	457.3
70°	279.4	310.2	368.3	406.0	415.1
72.5°	236.0	268.0	326.1	362.6	376.3
75°	189.3	225.8	283.9	322.7	331.8
77.5°	143.7	185.9	245.2	274.8	274.8
80°	102.6	147.1	201.8	215.5	217.8
82.5°	67.3	110.6	149.4	148.2	148.2
85°	38.8	71.8	88.9	86.7	86.7
87.5°	14.8	29.6	31.9	31.9	30.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)