

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: P311375

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-4000K**

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: P311375  
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-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 4000K 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: 3655.0 lumens  
Efficiency: N/A  
Efficacy: 118.7 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

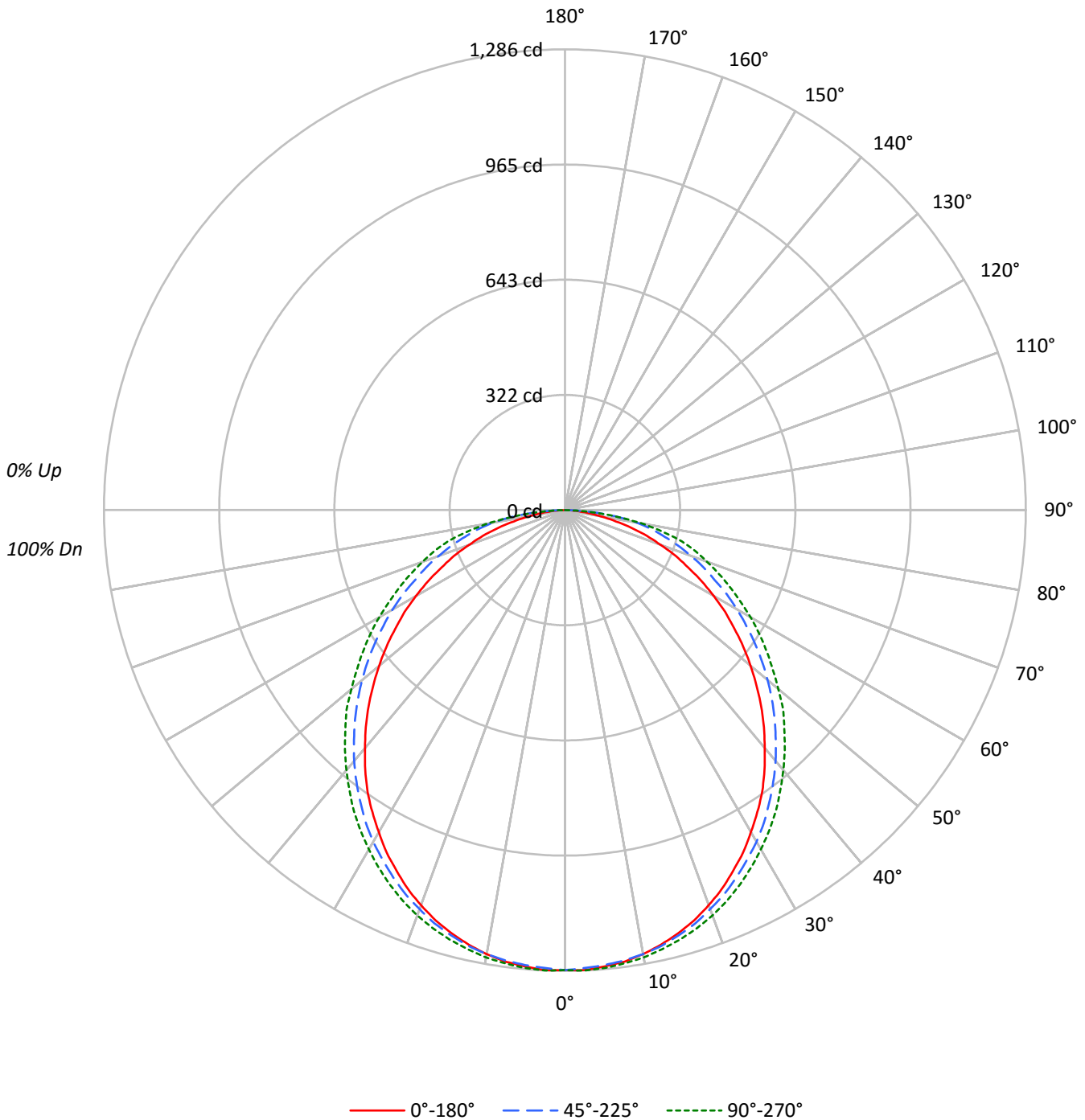
Input Watts (W): 30.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1728	1728	1728
5°	1726	1722	1733
10°	1719	1719	1732
15°	1703	1711	1729
20°	1681	1697	1724
25°	1649	1680	1713
30°	1613	1661	1699
35°	1577	1634	1686
40°	1523	1607	1666
45°	1474	1575	1648
50°	1417	1546	1628
55°	1354	1517	1612
60°	1290	1493	1609
65°	1209	1467	1619
70°	1119	1475	1662
75°	1002	1503	1756
80°	810	1592	1718
85°	610	1399	1362



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.6	3.3
10°-20°	347.3	9.5
20°-30°	522.1	14.3
30°-40°	621.9	17.0
40°-50°	636.5	17.4
50°-60°	573.1	15.7
60°-70°	450.0	12.3
70°-80°	292.1	8.0
80°-90°	90.3	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°	991.0	27.1
0°-40°	1613.0	44.1
0°-60°	2822.5	77.2
0°-90°	3655.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3655.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1284	1284	1284	1284	1284	
5°	1278	1280	1275	1282	1283	121
15°	1222	1226	1228	1239	1241	345
25°	1111	1120	1132	1150	1154	512
35°	960	972	995	1019	1026	599
45°	774	793	828	859	866	597
55°	577	602	647	680	687	517
65°	380	409	461	499	508	378
75°	193	230	289	329	338	204
85°	40	73	91	88	88	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1284.0	1284.0	1284.0	1284.0	1284.0
2.5°	1285.2	1285.2	1279.4	1285.2	1286.3
5°	1278.2	1280.5	1274.7	1281.7	1282.9
7.5°	1271.3	1271.3	1267.8	1274.7	1275.9
10°	1258.5	1259.6	1258.5	1266.6	1267.8
12.5°	1242.2	1244.6	1245.7	1253.8	1255.0
15°	1222.5	1226.0	1228.3	1238.7	1241.1
17.5°	1200.4	1203.9	1209.7	1221.3	1223.7
20°	1173.7	1178.4	1185.3	1200.4	1203.9
22.5°	1144.7	1149.4	1161.0	1174.9	1180.7
25°	1111.0	1120.3	1131.9	1150.5	1154.0
27.5°	1077.4	1085.5	1100.6	1120.3	1125.0
30°	1037.9	1050.7	1069.2	1089.0	1093.6
32.5°	999.6	1012.4	1034.4	1055.3	1061.1
35°	960.1	971.7	994.9	1019.3	1026.3
37.5°	914.8	929.9	955.5	979.9	986.8
40°	867.2	885.8	914.8	940.4	948.5
42.5°	822.0	841.7	870.7	898.6	907.9
45°	774.4	792.9	827.8	859.1	866.1
47.5°	725.6	746.5	783.7	815.0	826.6
50°	676.8	698.9	738.4	770.9	777.8
52.5°	628.1	651.3	693.1	727.9	731.4
55°	577.0	602.5	646.7	680.3	687.3
57.5°	530.6	552.6	600.2	635.0	643.2
60°	479.5	503.9	554.9	587.4	597.9
62.5°	430.7	456.3	509.7	542.2	551.5
65°	379.6	408.7	460.9	499.2	508.5
67.5°	335.5	363.4	419.1	456.3	465.5
70°	284.4	315.8	375.0	413.3	422.6
72.5°	240.3	272.8	332.0	369.2	383.1
75°	192.7	229.9	289.1	328.6	337.8
77.5°	146.3	189.2	249.6	279.8	279.8
80°	104.5	149.8	205.5	219.4	221.7
82.5°	68.5	112.6	152.1	150.9	150.9
85°	39.5	73.1	90.6	88.2	88.2
87.5°	15.1	30.2	32.5	32.5	31.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)