

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: P311382

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-3000K**

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: P311382  
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-CP250-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (336) 3000K 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: 3428.0 lumens  
Efficiency: N/A  
Efficacy: 113.5 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

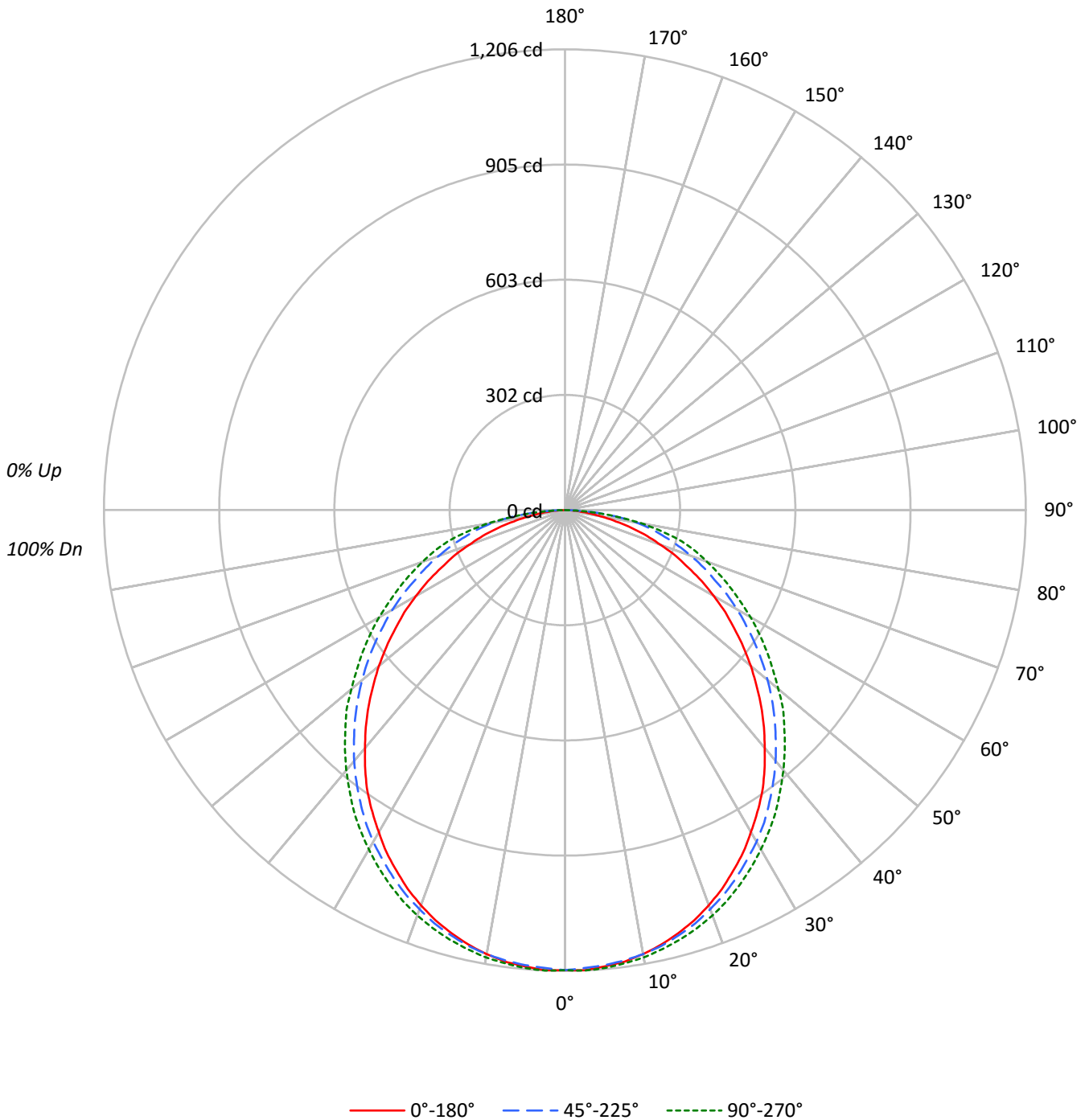
Input Watts (W): 30.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1620	1620	1620
5°	1619	1615	1625
10°	1613	1613	1624
15°	1597	1605	1621
20°	1576	1592	1617
25°	1547	1576	1607
30°	1512	1558	1594
35°	1479	1533	1581
40°	1429	1507	1563
45°	1382	1477	1546
50°	1329	1450	1527
55°	1270	1423	1512
60°	1210	1401	1509
65°	1134	1376	1518
70°	1050	1384	1559
75°	940	1409	1647
80°	759	1493	1612
85°	571	1311	1278



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.0	3.3
10°-20°	325.8	9.5
20°-30°	489.7	14.3
30°-40°	583.3	17.0
40°-50°	597.0	17.4
50°-60°	537.5	15.7
60°-70°	422.1	12.3
70°-80°	273.9	8.0
80°-90°	84.7	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°	929.5	27.1
0°-40°	1512.8	44.1
0°-60°	2647.3	77.2
0°-90°	3428.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3428.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1204	1204	1204	1204	1204	
5°	1199	1201	1196	1202	1203	114
15°	1147	1150	1152	1162	1164	323
25°	1042	1051	1062	1079	1082	480
35°	900	911	933	956	963	562
45°	726	744	776	806	812	560
55°	541	565	606	638	645	485
65°	356	383	432	468	477	354
75°	181	216	271	308	317	191
85°	37	69	85	83	83	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1204.3	1204.3	1204.3	1204.3	1204.3
2.5°	1205.4	1205.4	1199.9	1205.4	1206.5
5°	1198.8	1201.0	1195.6	1202.1	1203.2
7.5°	1192.3	1192.3	1189.0	1195.6	1196.7
10°	1180.3	1181.4	1180.3	1187.9	1189.0
12.5°	1165.1	1167.3	1168.3	1176.0	1177.1
15°	1146.6	1149.8	1152.0	1161.8	1164.0
17.5°	1125.9	1129.1	1134.6	1145.5	1147.7
20°	1100.8	1105.2	1111.7	1125.9	1129.1
22.5°	1073.6	1078.0	1088.9	1101.9	1107.4
25°	1042.0	1050.7	1061.6	1079.1	1082.3
27.5°	1010.5	1018.1	1032.2	1050.7	1055.1
30°	973.4	985.4	1002.8	1021.4	1025.7
32.5°	937.5	949.5	970.2	989.8	995.2
35°	900.5	911.4	933.2	956.0	962.6
37.5°	858.0	872.2	896.1	919.0	925.5
40°	813.4	830.8	858.0	882.0	889.6
42.5°	770.9	789.4	816.6	842.8	851.5
45°	726.3	743.7	776.4	805.8	812.3
47.5°	680.5	700.1	735.0	764.4	775.3
50°	634.8	655.5	692.5	723.0	729.5
52.5°	589.1	610.9	650.0	682.7	686.0
55°	541.2	565.1	606.5	638.1	644.6
57.5°	497.6	518.3	562.9	595.6	603.2
60°	449.7	472.6	520.5	551.0	560.8
62.5°	404.0	427.9	478.0	508.5	517.2
65°	356.1	383.3	432.3	468.2	476.9
67.5°	314.7	340.8	393.1	427.9	436.6
70°	266.8	296.2	351.7	387.6	396.3
72.5°	225.4	255.9	311.4	346.3	359.3
75°	180.8	215.6	271.1	308.1	316.9
77.5°	137.2	177.5	234.1	262.4	262.4
80°	98.0	140.5	192.7	205.8	208.0
82.5°	64.2	105.6	142.6	141.6	141.6
85°	37.0	68.6	84.9	82.8	82.8
87.5°	14.2	28.3	30.5	30.5	29.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)