

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: P311383

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-3500K**

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: P311383  
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-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (336) 3500K 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: 3547.0 lumens  
Efficiency: N/A  
Efficacy: 116.3 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

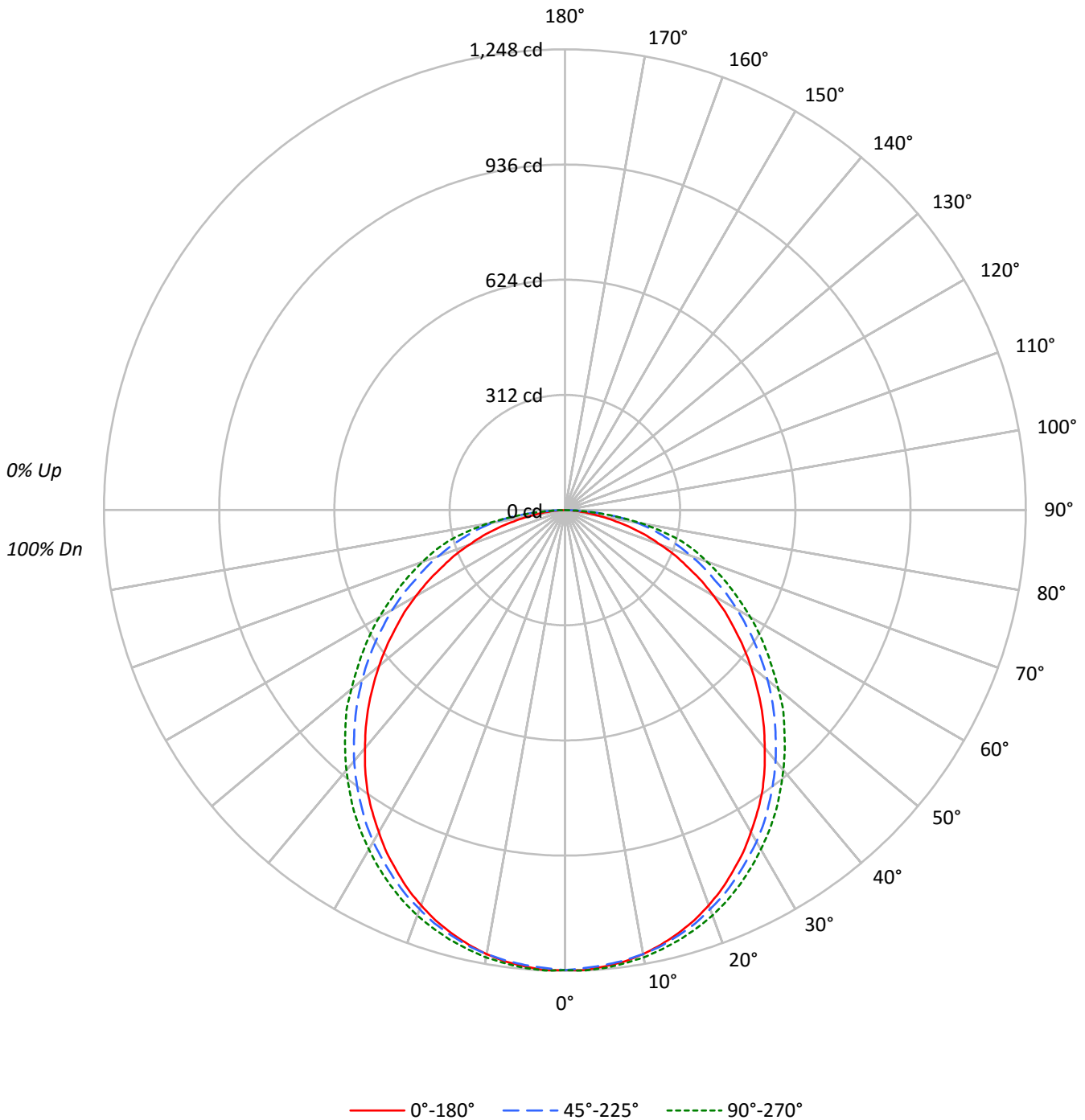
Input Watts (W): 30.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1677	1677	1677
5°	1675	1671	1682
10°	1669	1669	1681
15°	1653	1660	1678
20°	1631	1647	1673
25°	1601	1631	1663
30°	1565	1612	1649
35°	1530	1586	1636
40°	1478	1559	1617
45°	1430	1529	1599
50°	1375	1500	1580
55°	1313	1472	1565
60°	1252	1449	1561
65°	1173	1424	1571
70°	1086	1432	1613
75°	972	1458	1705
80°	786	1545	1667
85°	591	1357	1321



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.0	3.3
10°-20°	337.1	9.5
20°-30°	506.7	14.3
30°-40°	603.6	17.0
40°-50°	617.7	17.4
50°-60°	556.1	15.7
60°-70°	436.7	12.3
70°-80°	283.4	8.0
80°-90°	87.7	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°	961.7	27.1
0°-40°	1565.3	44.1
0°-60°	2739.1	77.2
0°-90°	3547.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3547.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1246	1246	1246	1246	1246	
5°	1240	1243	1237	1244	1245	118
15°	1186	1190	1192	1202	1204	335
25°	1078	1087	1098	1116	1120	497
35°	932	943	966	989	996	581
45°	752	770	803	834	840	579
55°	560	585	628	660	667	502
65°	368	397	447	484	494	367
75°	187	223	280	319	328	198
85°	38	71	88	86	86	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1246.1	1246.1	1246.1	1246.1	1246.1
2.5°	1247.2	1247.2	1241.6	1247.2	1248.3
5°	1240.5	1242.7	1237.1	1243.8	1245.0
7.5°	1233.7	1233.7	1230.3	1237.1	1238.2
10°	1221.3	1222.4	1221.3	1229.2	1230.3
12.5°	1205.5	1207.8	1208.9	1216.8	1217.9
15°	1186.4	1189.8	1192.0	1202.1	1204.4
17.5°	1165.0	1168.3	1174.0	1185.2	1187.5
20°	1139.1	1143.6	1150.3	1165.0	1168.3
22.5°	1110.9	1115.4	1126.7	1140.2	1145.8
25°	1078.2	1087.2	1098.5	1116.5	1119.9
27.5°	1045.5	1053.4	1068.1	1087.2	1091.7
30°	1007.2	1019.6	1037.7	1056.8	1061.3
32.5°	970.1	982.4	1003.9	1024.1	1029.8
35°	931.7	943.0	965.5	989.2	996.0
37.5°	887.8	902.5	927.2	950.9	957.7
40°	841.6	859.6	887.8	912.6	920.5
42.5°	797.7	816.8	845.0	872.0	881.0
45°	751.5	769.5	803.3	833.7	840.5
47.5°	704.2	724.4	760.5	790.9	802.2
50°	656.8	678.2	716.6	748.1	754.9
52.5°	609.5	632.1	672.6	706.4	709.8
55°	559.9	584.7	627.5	660.2	667.0
57.5°	514.9	536.3	582.5	616.3	624.2
60°	465.3	489.0	538.5	570.1	580.2
62.5°	418.0	442.8	494.6	526.1	535.2
65°	368.4	396.6	447.3	484.5	493.5
67.5°	325.6	352.6	406.7	442.8	451.8
70°	276.0	306.5	363.9	401.1	410.1
72.5°	233.2	264.8	322.2	358.3	371.8
75°	187.0	223.1	280.5	318.8	327.9
77.5°	142.0	183.6	242.2	271.5	271.5
80°	101.4	145.3	199.4	212.9	215.2
82.5°	66.5	109.3	147.6	146.5	146.5
85°	38.3	71.0	87.9	85.6	85.6
87.5°	14.6	29.3	31.5	31.5	30.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)