

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: P313711

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-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: P313711  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-60HE-UNV-L83050-RDP-CP250-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 3442.0 lumens  
Efficiency: N/A  
Efficacy: 72.3 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

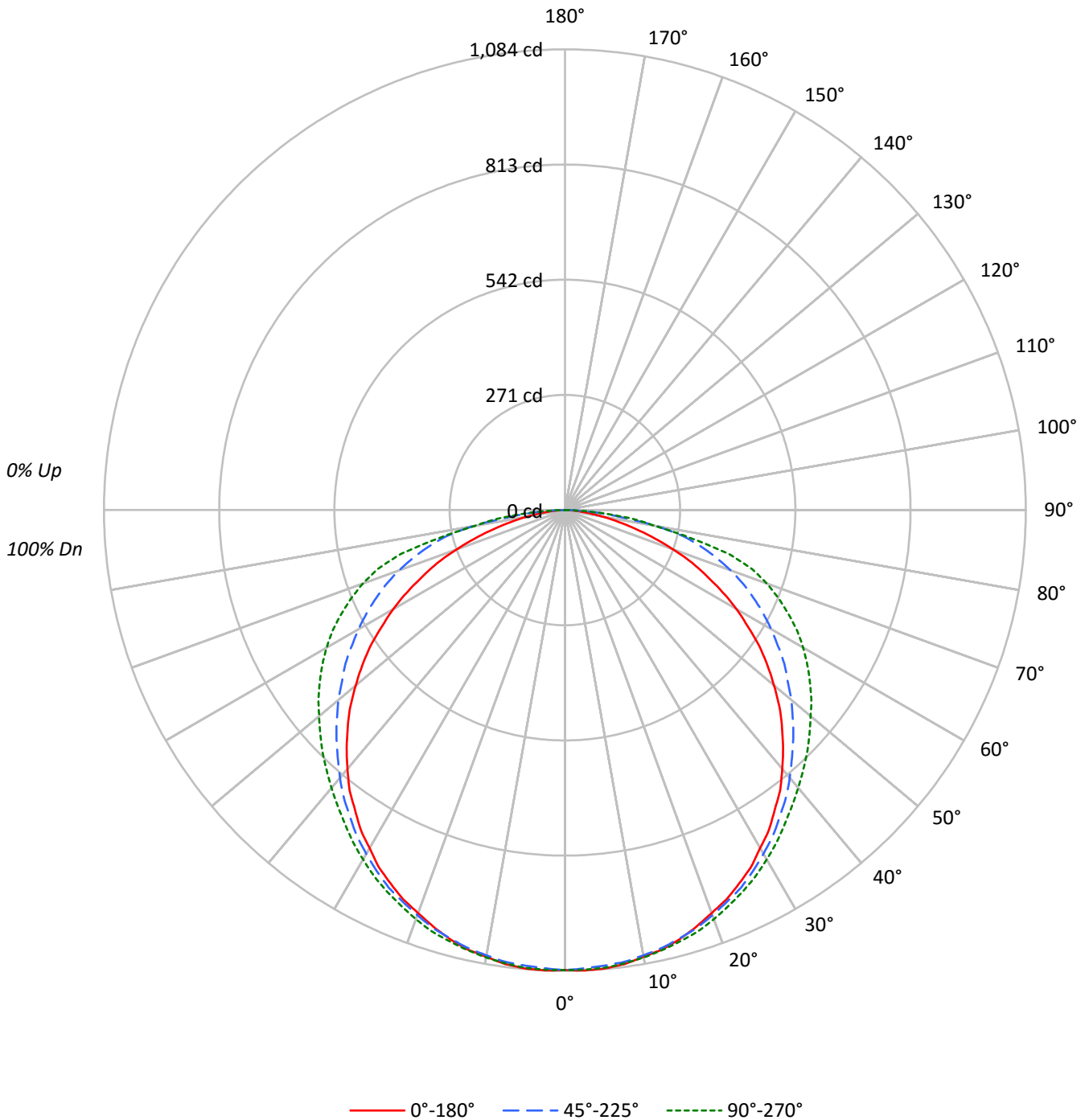
Input Watts (W): 47.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1456	1456	1456
5°	1462	1453	1460
10°	1458	1453	1460
15°	1455	1453	1463
20°	1445	1452	1467
25°	1440	1455	1470
30°	1427	1451	1475
35°	1413	1447	1481
40°	1397	1445	1499
45°	1374	1446	1533
50°	1344	1455	1580
55°	1310	1478	1650
60°	1254	1507	1741
65°	1174	1560	1848
70°	1068	1632	1988
75°	905	1722	2077
80°	714	1733	1680
85°	526	1318	1476



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.7	3.0
10°-20°	295.5	8.6
20°-30°	451.9	13.1
30°-40°	552.4	16.0
40°-50°	588.8	17.1
50°-60°	562.9	16.4
60°-70°	476.9	13.9
70°-80°	320.5	9.3
80°-90°	90.4	2.6
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°	850.1	24.7
0°-40°	1402.5	40.7
0°-60°	2554.2	74.2
0°-90°	3442.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3442.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1082	1082	1082	1082	1082	
5°	1082	1081	1076	1081	1081	103
15°	1045	1045	1043	1052	1050	295
25°	970	973	980	988	990	447
35°	860	867	881	898	901	539
45°	722	734	760	792	806	557
55°	558	579	630	680	703	497
65°	369	406	490	555	580	366
75°	174	237	331	388	400	186
85°	34	70	85	92	96	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1082.4	1082.4	1082.4	1082.4	1082.4
2.5°	1084.1	1084.1	1079.0	1082.4	1082.4
5°	1082.4	1080.7	1075.6	1080.7	1080.7
7.5°	1077.3	1075.6	1072.2	1077.3	1075.6
10°	1067.0	1067.0	1063.6	1068.8	1068.8
12.5°	1058.5	1056.8	1055.1	1061.9	1060.2
15°	1044.9	1044.9	1043.1	1051.7	1050.0
17.5°	1027.8	1029.5	1031.2	1038.0	1039.7
20°	1009.0	1012.4	1014.1	1024.4	1024.4
22.5°	991.9	993.6	997.0	1007.3	1007.3
25°	969.7	973.1	980.0	988.5	990.2
27.5°	947.5	949.2	957.8	969.7	971.4
30°	918.5	923.6	933.9	947.5	949.2
32.5°	892.9	898.0	910.0	923.6	927.0
35°	860.5	867.3	881.0	898.0	901.4
37.5°	831.4	836.6	853.6	872.4	877.5
40°	795.6	805.8	822.9	845.1	853.6
42.5°	759.7	770.0	790.5	819.5	829.7
45°	722.2	734.1	759.7	792.2	805.8
47.5°	684.6	698.3	727.3	764.9	780.2
50°	641.9	659.0	694.9	737.5	754.6
52.5°	601.0	621.4	660.7	708.5	730.7
55°	558.3	578.8	630.0	679.5	703.4
57.5°	510.5	537.8	594.1	650.5	676.1
60°	466.1	491.7	560.0	621.4	647.1
62.5°	418.3	452.4	525.8	590.7	616.3
65°	368.8	406.3	490.0	554.9	580.5
67.5°	324.4	365.4	454.1	519.0	544.6
70°	271.5	322.7	414.9	479.7	505.4
72.5°	221.9	278.3	373.9	437.1	461.0
75°	174.1	237.3	331.2	387.6	399.5
77.5°	129.8	196.3	286.8	310.7	302.2
80°	92.2	157.1	223.7	211.7	216.8
82.5°	59.8	119.5	138.3	157.1	162.2
85°	34.1	70.0	85.4	92.2	95.6
87.5°	15.4	25.6	34.1	34.1	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)