

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: P313335

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-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: P313335  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
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-HRP-CP250-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 3757.0 lumens  
Efficiency: N/A  
Efficacy: 79.1 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

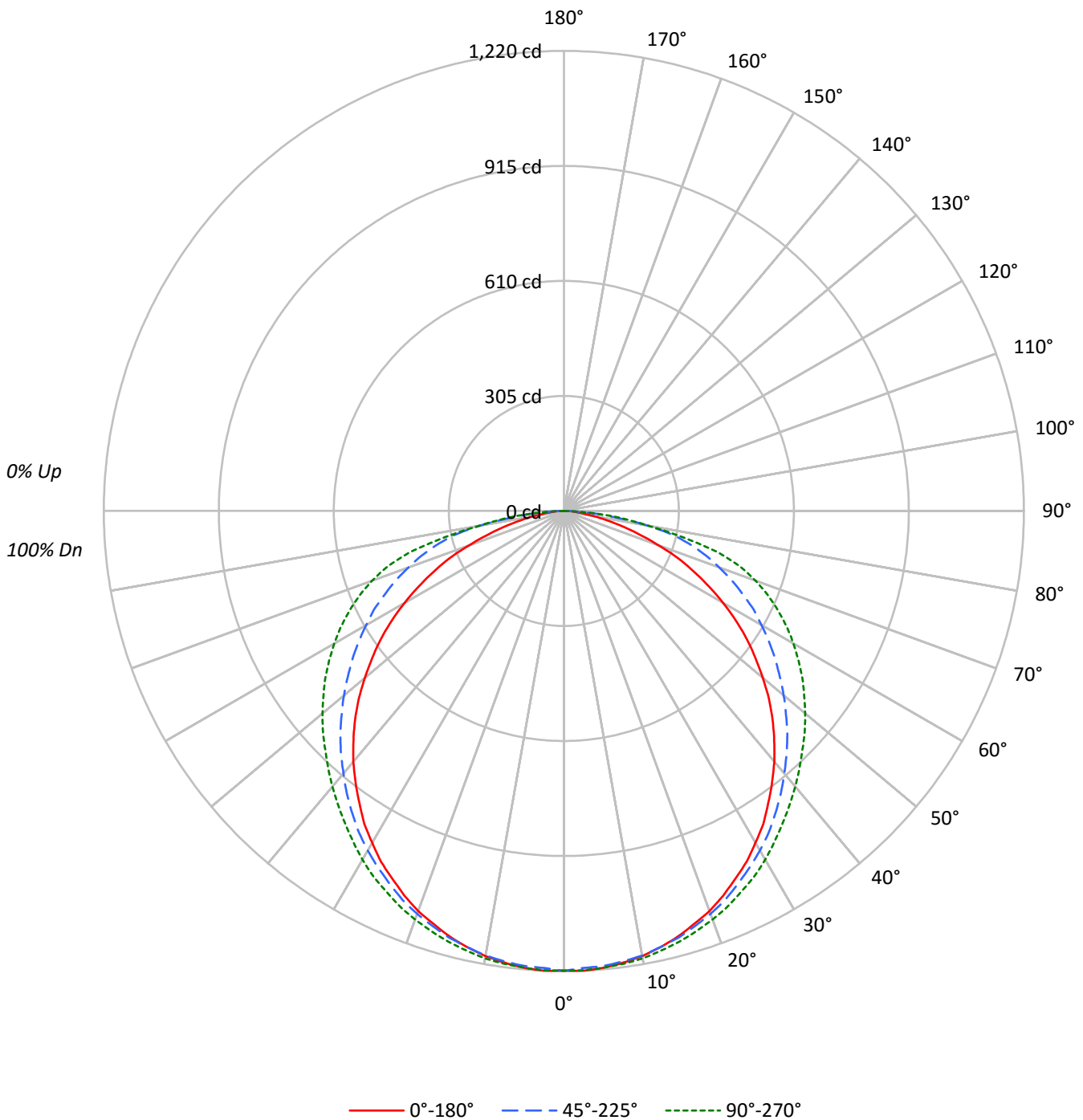
Input Watts (W): 47.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

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

	0°	45°	90°
0°	1640	1640	1640
5°	1642	1636	1642
10°	1637	1635	1646
15°	1628	1632	1648
20°	1617	1628	1651
25°	1597	1621	1653
30°	1579	1615	1659
35°	1553	1607	1661
40°	1525	1597	1677
45°	1490	1595	1703
50°	1442	1594	1748
55°	1391	1605	1812
60°	1312	1629	1892
65°	1212	1668	1998
70°	1058	1726	2129
75°	858	1815	2200
80°	634	1779	1779
85°	486	1311	1480



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.5	3.1
10°-20°	331.6	8.8
20°-30°	504.8	13.4
30°-40°	613.0	16.3
40°-50°	647.6	17.2
50°-60°	611.1	16.3
60°-70°	508.1	13.5
70°-80°	334.3	8.9
80°-90°	91.1	2.4
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°	951.9	25.3
0°-40°	1564.9	41.7
0°-60°	2823.5	75.2
0°-90°	3757.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3757.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1219	1219	1219	1219	1219	
5°	1216	1216	1211	1216	1216	115
15°	1169	1170	1172	1183	1183	330
25°	1076	1082	1092	1110	1114	496
35°	945	956	978	1004	1011	592
45°	783	799	838	879	895	603
55°	593	618	684	749	772	528
65°	381	425	524	601	628	376
75°	165	241	349	414	423	178
85°	32	69	85	94	96	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1219.0	1219.0	1219.0	1219.0	1219.0
2.5°	1220.5	1219.0	1212.7	1219.0	1219.0
5°	1215.8	1215.8	1211.1	1215.8	1215.8
7.5°	1208.0	1208.0	1204.8	1211.1	1211.1
10°	1198.5	1198.5	1196.9	1204.8	1204.8
12.5°	1184.4	1185.9	1184.4	1193.8	1193.8
15°	1168.6	1170.2	1171.8	1182.8	1182.8
17.5°	1148.2	1151.3	1154.5	1167.1	1168.6
20°	1129.3	1130.9	1137.2	1151.3	1152.9
22.5°	1104.1	1108.9	1116.7	1130.9	1135.6
25°	1075.8	1082.1	1091.6	1110.4	1113.6
27.5°	1049.1	1053.8	1066.4	1086.8	1093.1
30°	1016.1	1023.9	1039.7	1060.1	1068.0
32.5°	984.6	992.5	1011.3	1033.4	1039.7
35°	945.3	956.3	978.3	1003.5	1011.3
37.5°	907.5	918.5	945.3	973.6	983.0
40°	868.2	880.8	909.1	942.1	954.7
42.5°	825.7	843.0	874.5	910.7	924.8
45°	783.3	799.0	838.3	879.2	895.0
47.5°	737.7	756.5	799.0	847.8	866.6
50°	688.9	712.5	761.3	814.7	835.2
52.5°	640.2	666.9	721.9	781.7	803.7
55°	593.0	618.1	684.2	748.7	772.3
57.5°	541.1	572.5	644.9	714.1	737.7
60°	487.6	522.2	605.5	677.9	703.1
62.5°	434.1	473.4	567.8	640.2	666.9
65°	380.6	424.7	523.8	600.8	627.6
67.5°	328.7	377.5	482.9	559.9	586.7
70°	269.0	330.3	438.8	514.3	541.1
72.5°	213.9	284.7	396.4	467.1	490.7
75°	165.1	240.6	349.2	413.7	423.1
77.5°	121.1	196.6	300.4	322.4	324.0
80°	81.8	157.3	229.6	226.5	229.6
82.5°	53.5	118.0	144.7	162.0	163.6
85°	31.5	69.2	84.9	94.4	95.9
87.5°	15.7	23.6	29.9	31.5	34.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)