

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: P313708

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CP187-W2A-U-4500K**

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: P313708  
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-CP187-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET  
Light Source: (336) 4500K 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: 3679.0 lumens  
Efficiency: N/A  
Efficacy: 73.7 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

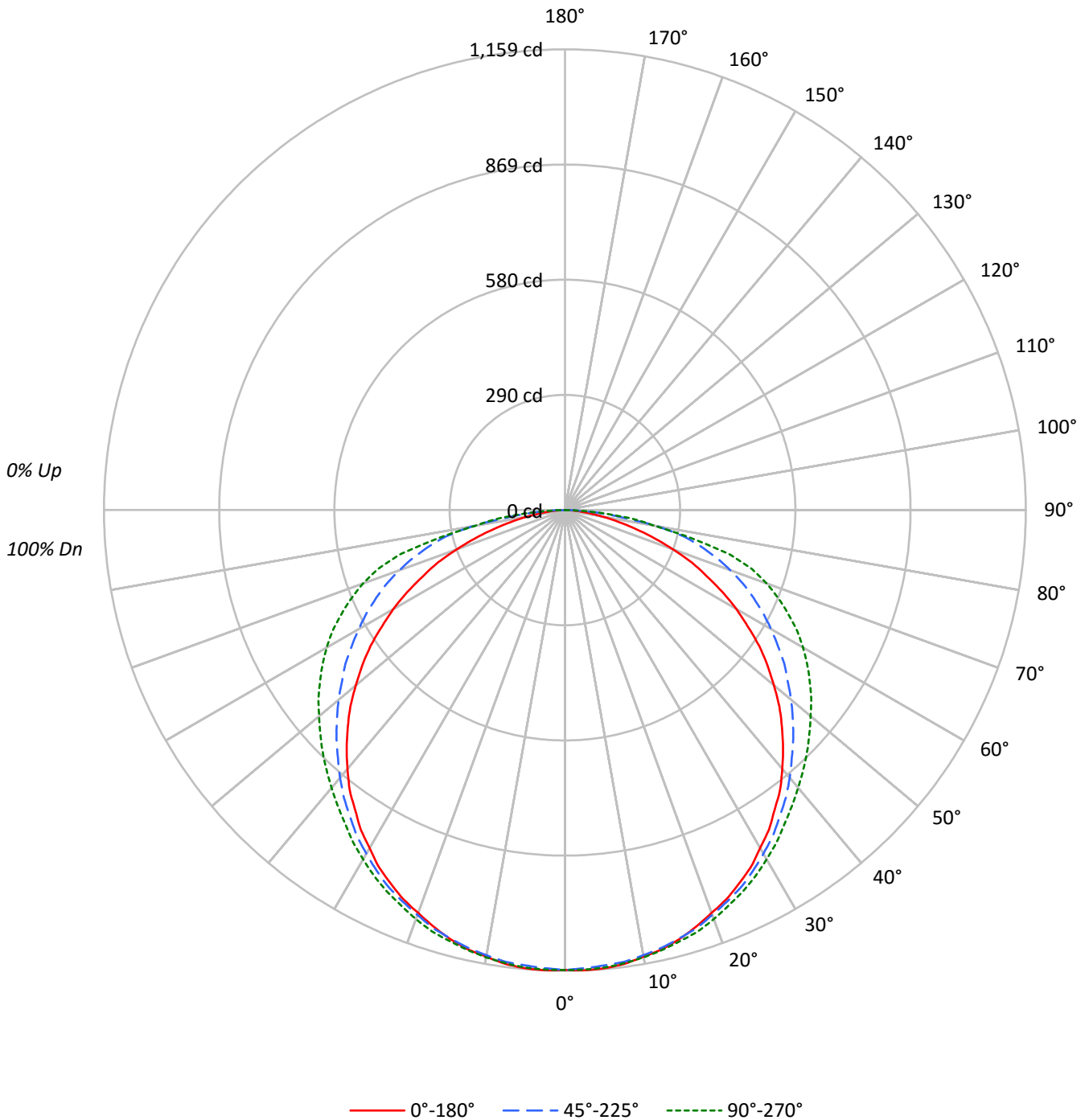
Input Watts (W): 49.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1557	1557	1557
5°	1563	1553	1560
10°	1558	1553	1561
15°	1556	1553	1563
20°	1544	1552	1568
25°	1539	1555	1571
30°	1525	1551	1576
35°	1511	1547	1583
40°	1494	1545	1603
45°	1469	1545	1639
50°	1436	1555	1688
55°	1400	1580	1764
60°	1341	1611	1861
65°	1255	1667	1975
70°	1141	1744	2125
75°	967	1840	2220
80°	763	1853	1796
85°	563	1408	1578



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.7	3.0
10°-20°	315.8	8.6
20°-30°	483.0	13.1
30°-40°	590.5	16.0
40°-50°	629.3	17.1
50°-60°	601.7	16.4
60°-70°	509.7	13.9
70°-80°	342.6	9.3
80°-90°	96.6	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°	908.6	24.7
0°-40°	1499.1	40.7
0°-60°	2730.1	74.2
0°-90°	3679.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3679.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1157	1157	1157	1157	1157	
5°	1157	1155	1150	1155	1155	110
15°	1117	1117	1115	1124	1122	315
25°	1036	1040	1048	1057	1058	478
35°	920	927	942	960	964	576
45°	772	785	812	847	861	595
55°	597	619	673	726	752	531
65°	394	434	524	593	620	391
75°	186	254	354	414	427	199
85°	36	75	91	98	102	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1156.9	1156.9	1156.9	1156.9	1156.9
2.5°	1158.8	1158.8	1153.3	1156.9	1156.9
5°	1156.9	1155.1	1149.6	1155.1	1155.1
7.5°	1151.5	1149.6	1146.0	1151.5	1149.6
10°	1140.5	1140.5	1136.9	1142.3	1142.3
12.5°	1131.4	1129.6	1127.7	1135.0	1133.2
15°	1116.8	1116.8	1115.0	1124.1	1122.3
17.5°	1098.5	1100.4	1102.2	1109.5	1111.3
20°	1078.5	1082.1	1083.9	1094.9	1094.9
22.5°	1060.2	1062.0	1065.7	1076.6	1076.6
25°	1036.5	1040.2	1047.5	1056.6	1058.4
27.5°	1012.8	1014.6	1023.7	1036.5	1038.3
30°	981.8	987.2	998.2	1012.8	1014.6
32.5°	954.4	959.9	972.6	987.2	990.9
35°	919.7	927.0	941.6	959.9	963.5
37.5°	888.7	894.2	912.4	932.5	938.0
40°	850.4	861.3	879.6	903.3	912.4
42.5°	812.0	823.0	844.9	875.9	886.9
45°	771.9	784.7	812.0	846.7	861.3
47.5°	731.8	746.4	777.4	817.5	833.9
50°	686.1	704.4	742.7	788.3	806.6
52.5°	642.3	664.2	706.2	757.3	781.0
55°	596.7	618.6	673.4	726.3	751.8
57.5°	545.6	574.8	635.0	695.3	722.6
60°	498.2	525.6	598.5	664.2	691.6
62.5°	447.1	483.6	562.0	631.4	658.8
65°	394.2	434.3	523.7	593.1	620.4
67.5°	346.7	390.5	485.4	554.7	582.1
70°	290.1	344.9	443.4	512.8	540.1
72.5°	237.2	297.4	399.6	467.2	492.7
75°	186.1	253.7	354.0	414.2	427.0
77.5°	138.7	209.9	306.6	332.1	323.0
80°	98.5	167.9	239.1	226.3	231.8
82.5°	63.9	127.7	147.8	167.9	173.4
85°	36.5	74.8	91.2	98.5	102.2
87.5°	16.4	27.4	36.5	36.5	34.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)