

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: P313693

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CA08-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: P313693  
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-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 3932.0 lumens  
Efficiency: N/A  
Efficacy: 78.8 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

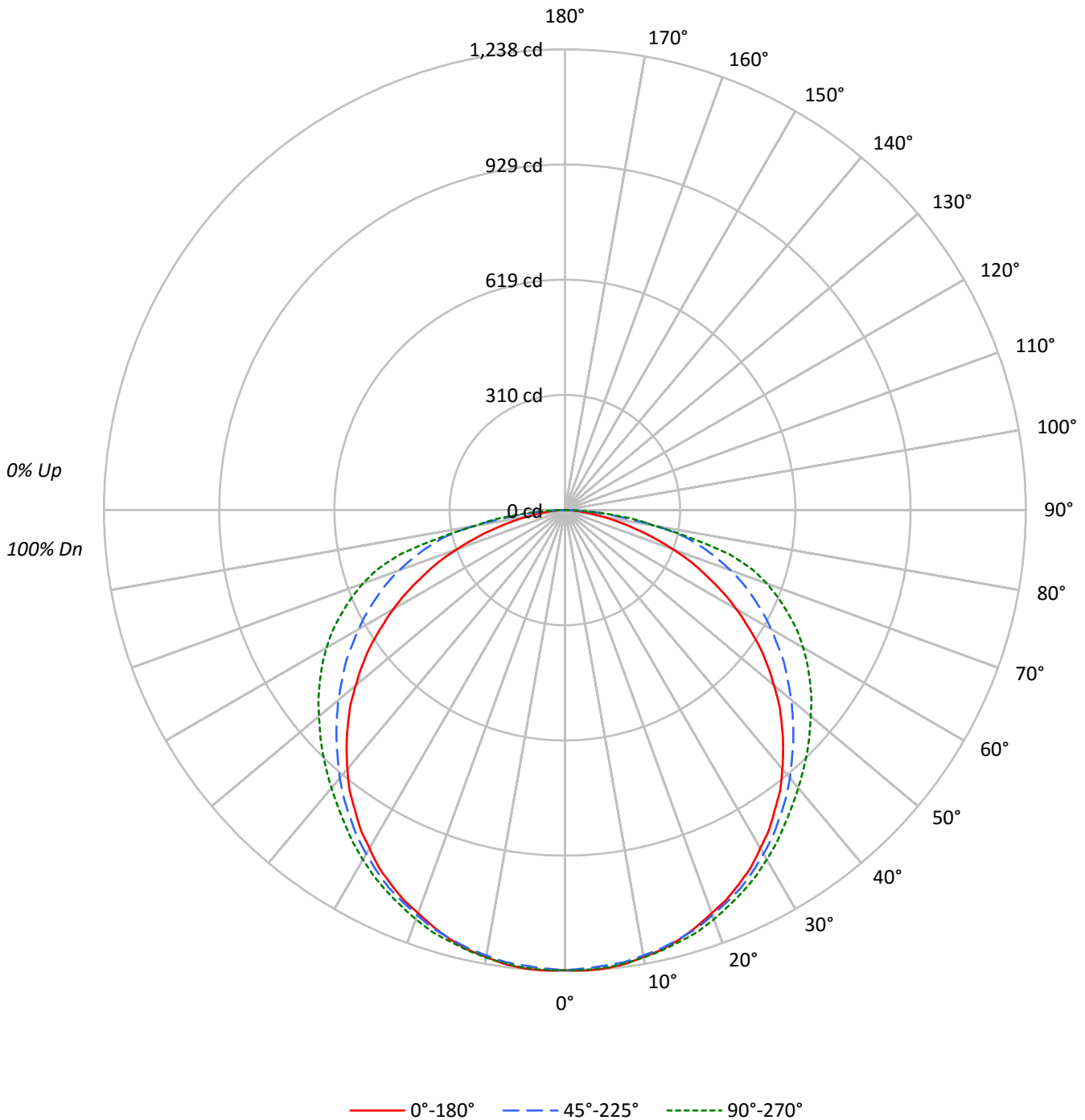
Input Watts (W): 49.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1664	1664	1664
5°	1670	1660	1667
10°	1665	1660	1668
15°	1663	1660	1671
20°	1650	1659	1676
25°	1645	1662	1679
30°	1630	1657	1685
35°	1615	1653	1691
40°	1596	1651	1713
45°	1570	1651	1752
50°	1535	1662	1804
55°	1496	1688	1885
60°	1433	1721	1989
65°	1341	1782	2111
70°	1220	1864	2271
75°	1034	1967	2373
80°	816	1980	1919
85°	602	1505	1686



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.3	3.0
10°-20°	337.6	8.6
20°-30°	516.2	13.1
30°-40°	631.1	16.0
40°-50°	672.6	17.1
50°-60°	643.1	16.4
60°-70°	544.8	13.9
70°-80°	366.1	9.3
80°-90°	103.3	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°	971.1	24.7
0°-40°	1602.2	40.7
0°-60°	2917.8	74.2
0°-90°	3932.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3932.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1236	1236	1236	1236	1236	
5°	1236	1235	1229	1235	1235	117
15°	1194	1194	1192	1201	1199	337
25°	1108	1112	1120	1129	1131	511
35°	983	991	1006	1026	1030	616
45°	825	839	868	905	921	636
55°	638	661	720	776	804	568
65°	421	464	560	634	663	418
75°	199	271	378	443	456	213
85°	39	80	98	105	109	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1236.5	1236.5	1236.5	1236.5	1236.5
2.5°	1238.5	1238.5	1232.6	1236.5	1236.5
5°	1236.5	1234.6	1228.7	1234.6	1234.6
7.5°	1230.7	1228.7	1224.8	1230.7	1228.7
10°	1218.9	1218.9	1215.0	1220.9	1220.9
12.5°	1209.2	1207.2	1205.3	1213.1	1211.1
15°	1193.6	1193.6	1191.6	1201.4	1199.4
17.5°	1174.1	1176.0	1178.0	1185.8	1187.7
20°	1152.6	1156.5	1158.5	1170.2	1170.2
22.5°	1133.1	1135.1	1139.0	1150.7	1150.7
25°	1107.8	1111.7	1119.5	1129.2	1131.2
27.5°	1082.4	1084.4	1094.1	1107.8	1109.7
30°	1049.3	1055.1	1066.8	1082.4	1084.4
32.5°	1020.0	1025.9	1039.5	1055.1	1059.0
35°	983.0	990.8	1006.4	1025.9	1029.8
37.5°	949.8	955.7	975.2	996.6	1002.5
40°	908.8	920.6	940.1	965.4	975.2
42.5°	867.9	879.6	903.0	936.2	947.9
45°	825.0	838.6	867.9	904.9	920.6
47.5°	782.1	797.7	830.8	873.7	891.3
50°	733.3	752.8	793.8	842.5	862.0
52.5°	686.5	709.9	754.8	809.4	834.7
55°	637.8	661.2	719.7	776.2	803.5
57.5°	583.1	614.4	678.7	743.1	772.3
60°	532.4	561.7	639.7	709.9	739.2
62.5°	477.8	516.8	600.7	674.8	704.1
65°	421.3	464.2	559.7	633.9	663.1
67.5°	370.6	417.4	518.8	592.9	622.2
70°	310.1	368.6	473.9	548.0	577.3
72.5°	253.5	317.9	427.1	499.3	526.6
75°	198.9	271.1	378.4	442.7	456.4
77.5°	148.2	224.3	327.7	355.0	345.2
80°	105.3	179.4	255.5	241.8	247.7
82.5°	68.3	136.5	158.0	179.4	185.3
85°	39.0	80.0	97.5	105.3	109.2
87.5°	17.6	29.3	39.0	39.0	37.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)