

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: P309636

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CA08-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: P309636  
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-L82765-HRP-CA08-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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**

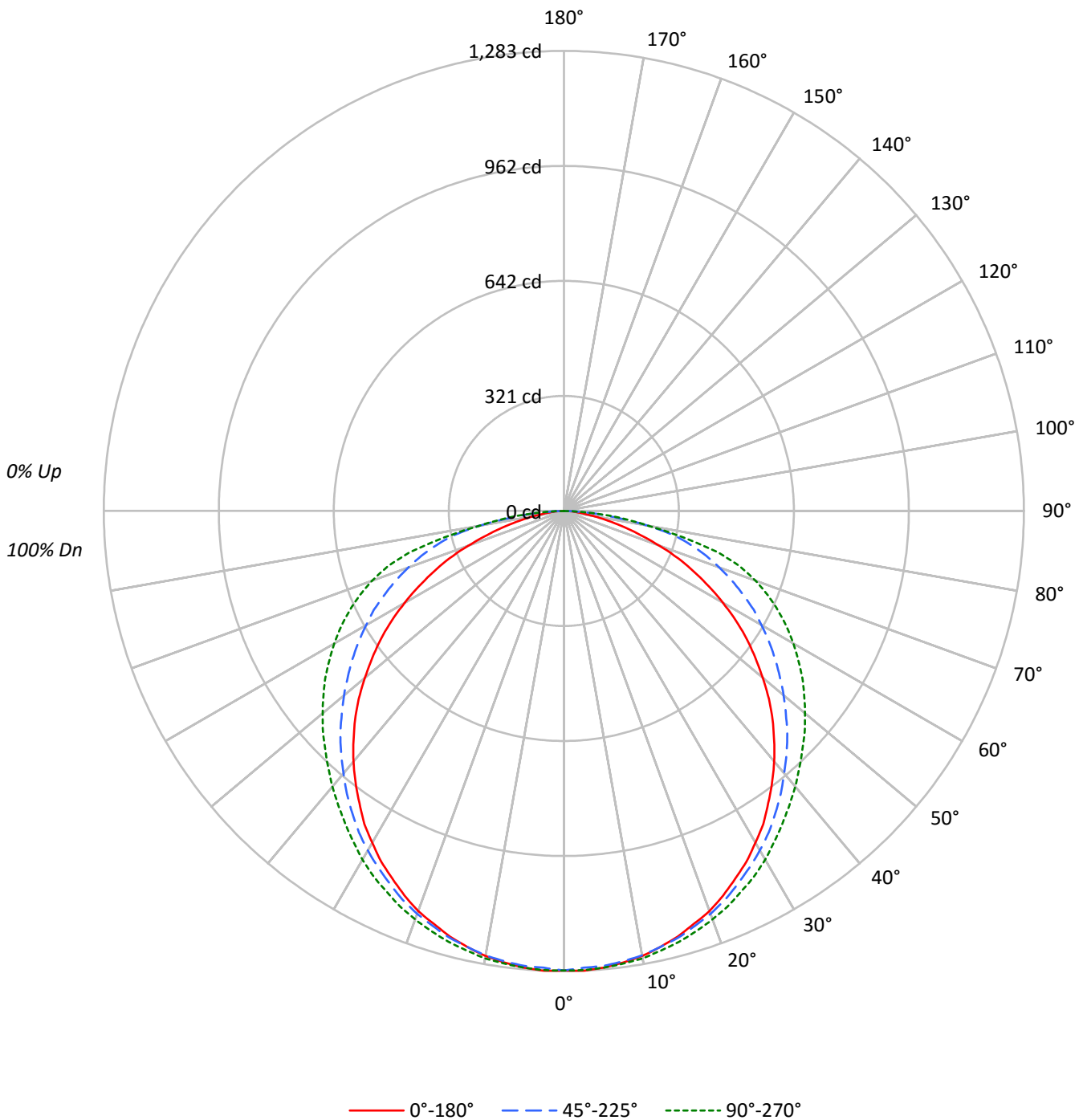
Lumens per Lamp: N/A  
Luminaire Lumens: 3950.0 lumens  
Efficiency: N/A  
Efficacy: 83.5 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
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°	1724	1724	1724
5°	1727	1720	1727
10°	1722	1719	1731
15°	1712	1716	1732
20°	1700	1712	1736
25°	1679	1704	1738
30°	1660	1698	1744
35°	1632	1690	1747
40°	1603	1679	1763
45°	1567	1677	1790
50°	1516	1675	1838
55°	1462	1687	1905
60°	1379	1713	1989
65°	1274	1753	2101
70°	1113	1815	2238
75°	902	1908	2312
80°	666	1870	1870
85°	511	1379	1558



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.4	3.1
10°-20°	348.6	8.8
20°-30°	530.8	13.4
30°-40°	644.4	16.3
40°-50°	680.9	17.2
50°-60°	642.5	16.3
60°-70°	534.2	13.5
70°-80°	351.4	8.9
80°-90°	95.8	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°	1000.8	25.3
0°-40°	1645.2	41.7
0°-60°	2968.6	75.2
0°-90°	3950.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3950.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1282	1282	1282	1282	1282	
5°	1278	1278	1273	1278	1278	121
15°	1229	1230	1232	1244	1244	347
25°	1131	1138	1148	1168	1171	522
35°	994	1005	1029	1055	1063	622
45°	824	840	881	924	941	634
55°	623	650	719	787	812	555
65°	400	446	551	632	660	396
75°	174	253	367	435	445	187
85°	33	73	89	99	101	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1281.6	1281.6	1281.6	1281.6	1281.6
2.5°	1283.2	1281.6	1275.0	1281.6	1281.6
5°	1278.3	1278.3	1273.3	1278.3	1278.3
7.5°	1270.0	1270.0	1266.7	1273.3	1273.3
10°	1260.1	1260.1	1258.4	1266.7	1266.7
12.5°	1245.2	1246.9	1245.2	1255.1	1255.1
15°	1228.7	1230.3	1232.0	1243.5	1243.5
17.5°	1207.2	1210.5	1213.8	1227.0	1228.7
20°	1187.3	1189.0	1195.6	1210.5	1212.1
22.5°	1160.9	1165.8	1174.1	1189.0	1193.9
25°	1131.1	1137.7	1147.6	1167.5	1170.8
27.5°	1103.0	1107.9	1121.2	1142.7	1149.3
30°	1068.3	1076.5	1093.1	1114.6	1122.8
32.5°	1035.2	1043.5	1063.3	1086.4	1093.1
35°	993.8	1005.4	1028.6	1055.0	1063.3
37.5°	954.2	965.7	993.8	1023.6	1033.5
40°	912.8	926.0	955.8	990.5	1003.8
42.5°	868.2	886.4	919.4	957.5	972.3
45°	823.5	840.1	881.4	924.4	940.9
47.5°	775.6	795.4	840.1	891.3	911.2
50°	724.3	749.1	800.4	856.6	878.1
52.5°	673.0	701.1	759.0	821.9	845.0
55°	623.4	649.9	719.3	787.1	811.9
57.5°	568.9	601.9	678.0	750.8	775.6
60°	512.6	549.0	636.7	712.7	739.2
62.5°	456.4	497.7	597.0	673.0	701.1
65°	400.2	446.5	550.7	631.7	659.8
67.5°	345.6	396.9	507.7	588.7	616.8
70°	282.8	347.3	461.4	540.7	568.9
72.5°	224.9	299.3	416.7	491.1	515.9
75°	173.6	253.0	367.1	434.9	444.8
77.5°	127.3	206.7	315.8	339.0	340.7
80°	86.0	165.4	241.4	238.1	241.4
82.5°	56.2	124.0	152.1	170.3	172.0
85°	33.1	72.8	89.3	99.2	100.9
87.5°	16.5	24.8	31.4	33.1	36.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)