

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: P310993

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CA08-W2A-U-6500K**

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: P310993  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
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-CA08-W2A-U-6500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 6500K 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: 5765.0 lumens  
Efficiency: N/A  
Efficacy: 116.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

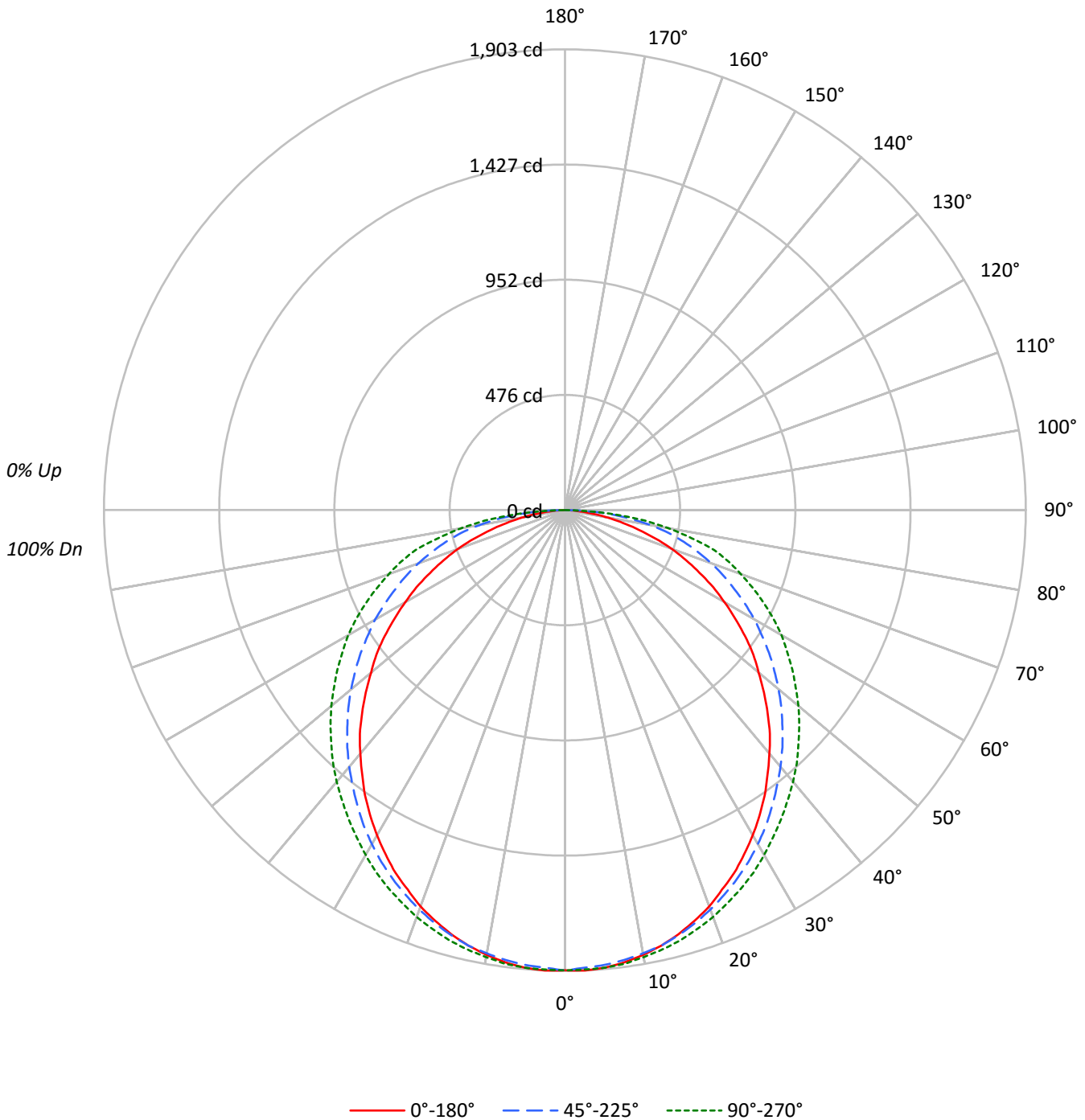
Input Watts (W): 49.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

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

	0°	45°	90°
0°	2558	2558	2558
5°	2563	2547	2563
10°	2548	2540	2561
15°	2526	2531	2563
20°	2495	2514	2561
25°	2456	2496	2559
30°	2410	2475	2556
35°	2363	2451	2557
40°	2308	2432	2573
45°	2253	2417	2595
50°	2186	2410	2635
55°	2131	2414	2688
60°	2049	2435	2780
65°	1955	2460	2880
70°	1851	2536	3040
75°	1651	2645	3321
80°	1408	2801	3394
85°	1003	2776	3248



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.9	3.1
10°-20°	514.5	8.9
20°-30°	777.1	13.5
30°-40°	936.6	16.2
40°-50°	983.2	17.1
50°-60°	919.9	16.0
60°-70°	759.7	13.2
70°-80°	517.6	9.0
80°-90°	176.5	3.1
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°	1471.5	25.5
0°-40°	2408.1	41.8
0°-60°	4311.2	74.8
0°-90°	5765.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5765.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1901	1901	1901	1901	1901	
5°	1897	1896	1886	1897	1897	180
15°	1813	1815	1817	1836	1840	511
25°	1654	1662	1681	1714	1723	761
35°	1438	1454	1492	1542	1557	899
45°	1184	1209	1270	1339	1364	913
55°	908	945	1029	1113	1146	811
65°	614	666	773	870	905	609
75°	318	390	509	604	639	339
85°	65	128	180	203	210	81
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1901.2	1901.2	1901.2	1901.2	1901.2
2.5°	1903.2	1901.2	1891.7	1901.2	1899.3
5°	1897.4	1895.5	1885.9	1897.4	1897.4
7.5°	1884.0	1884.0	1874.5	1887.9	1889.8
10°	1864.9	1864.9	1859.2	1874.5	1874.5
12.5°	1842.0	1842.0	1842.0	1857.3	1859.2
15°	1813.3	1815.2	1817.1	1836.2	1840.0
17.5°	1778.8	1782.7	1788.4	1811.3	1815.2
20°	1742.5	1746.3	1755.9	1782.7	1788.4
22.5°	1696.6	1706.1	1719.5	1750.1	1755.9
25°	1654.5	1662.2	1681.3	1713.8	1723.4
27.5°	1602.9	1614.3	1639.2	1673.6	1687.0
30°	1551.2	1562.7	1593.3	1633.5	1644.9
32.5°	1495.7	1513.0	1545.5	1587.6	1600.9
35°	1438.4	1453.7	1491.9	1541.7	1557.0
37.5°	1375.2	1396.3	1438.4	1491.9	1511.1
40°	1314.0	1337.0	1384.8	1442.2	1465.1
42.5°	1252.8	1275.8	1329.3	1394.4	1417.3
45°	1184.0	1208.8	1270.0	1338.9	1363.8
47.5°	1115.1	1145.7	1212.7	1285.3	1312.1
50°	1044.3	1078.8	1151.5	1228.0	1258.6
52.5°	981.2	1013.7	1090.3	1172.5	1201.2
55°	908.5	944.9	1029.0	1113.2	1145.7
57.5°	833.9	874.1	964.0	1055.8	1088.3
60°	761.3	805.3	904.7	996.5	1032.9
62.5°	690.5	734.5	837.8	933.4	969.8
65°	614.0	665.6	772.7	870.3	904.7
67.5°	541.3	596.8	709.6	805.3	839.7
70°	470.5	524.1	644.6	738.3	772.7
72.5°	394.0	455.2	575.7	673.3	709.6
75°	317.5	390.2	508.8	604.4	638.8
77.5°	246.7	321.3	439.9	518.3	535.6
80°	181.7	258.2	361.5	417.0	438.0
82.5°	116.7	193.2	275.4	315.6	332.8
85°	65.0	128.2	179.8	202.7	210.4
87.5°	26.8	55.5	72.7	82.2	82.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)