

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: P309641

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CA08-W2A-U-5500K**

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: P309641  
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-5500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5500K 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: 4350.0 lumens  
Efficiency: N/A  
Efficacy: 89.0 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

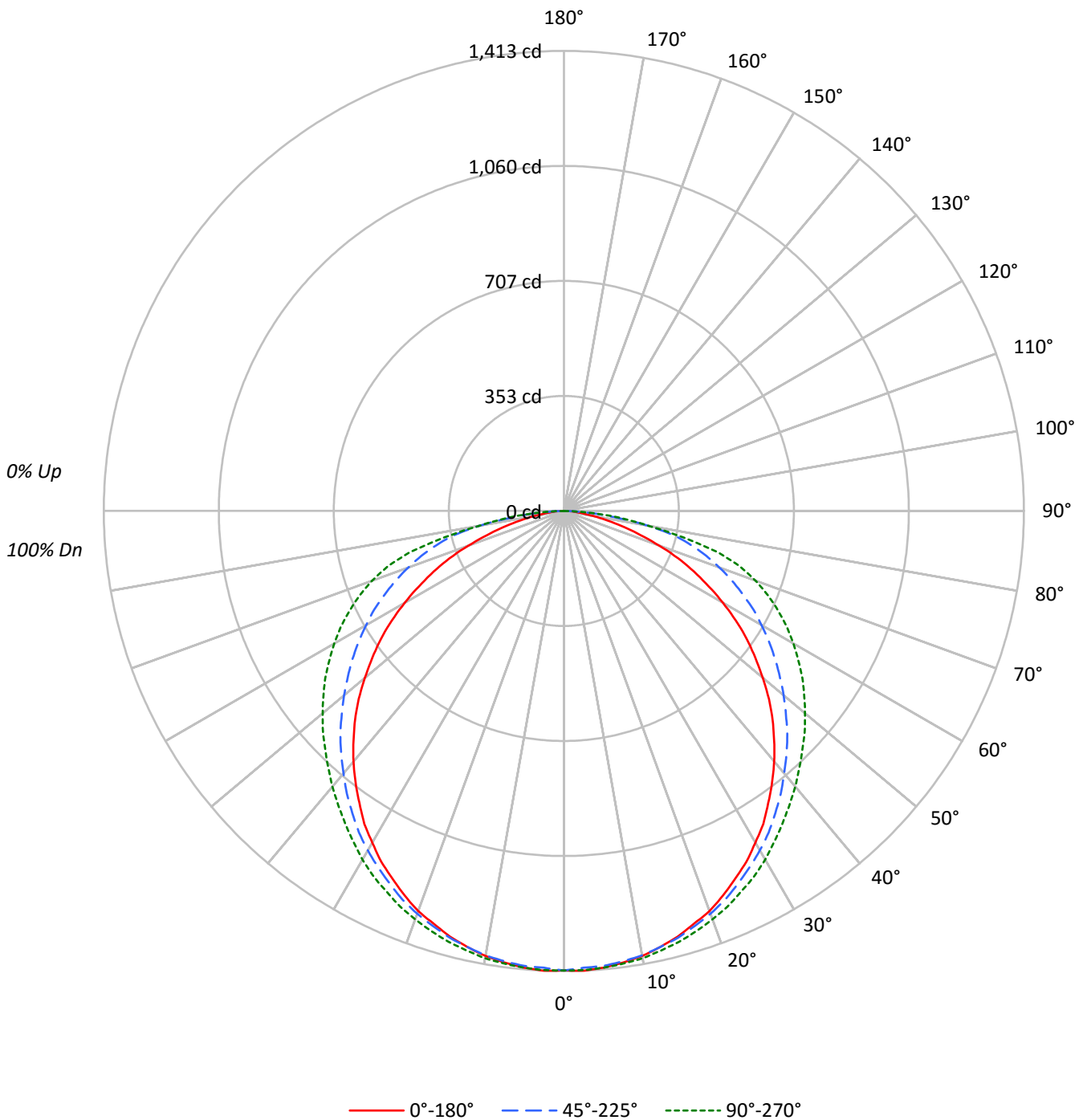
Input Watts (W): 48.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1899	1899	1899
5°	1901	1894	1901
10°	1896	1893	1906
15°	1885	1890	1908
20°	1872	1885	1911
25°	1849	1876	1914
30°	1828	1870	1921
35°	1798	1861	1923
40°	1766	1849	1942
45°	1726	1847	1972
50°	1670	1845	2024
55°	1611	1858	2098
60°	1519	1887	2190
65°	1403	1931	2313
70°	1225	1999	2465
75°	994	2102	2547
80°	734	2060	2060
85°	562	1518	1715



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.7	3.1
10°-20°	383.9	8.8
20°-30°	584.5	13.4
30°-40°	709.7	16.3
40°-50°	749.8	17.2
50°-60°	707.5	16.3
60°-70°	588.3	13.5
70°-80°	387.0	8.9
80°-90°	105.5	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°	1102.1	25.3
0°-40°	1811.9	41.7
0°-60°	3269.2	75.2
0°-90°	4350.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4350.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1411	1411	1411	1411	1411	
5°	1408	1408	1402	1408	1408	134
15°	1353	1355	1357	1370	1370	382
25°	1246	1253	1264	1286	1289	575
35°	1094	1107	1133	1162	1171	685
45°	907	925	971	1018	1036	698
55°	687	716	792	867	894	612
65°	441	492	606	696	727	436
75°	191	279	404	479	490	206
85°	36	80	98	109	111	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1411.4	1411.4	1411.4	1411.4	1411.4
2.5°	1413.2	1411.4	1404.1	1411.4	1411.4
5°	1407.7	1407.7	1402.3	1407.7	1407.7
7.5°	1398.6	1398.6	1395.0	1402.3	1402.3
10°	1387.7	1387.7	1385.9	1395.0	1395.0
12.5°	1371.3	1373.1	1371.3	1382.2	1382.2
15°	1353.1	1354.9	1356.7	1369.5	1369.5
17.5°	1329.4	1333.1	1336.7	1351.3	1353.1
20°	1307.6	1309.4	1316.7	1333.1	1334.9
22.5°	1278.4	1283.9	1293.0	1309.4	1314.8
25°	1245.6	1252.9	1263.9	1285.7	1289.3
27.5°	1214.7	1220.1	1234.7	1258.4	1265.7
30°	1176.4	1185.5	1203.8	1227.4	1236.5
32.5°	1140.0	1149.1	1171.0	1196.5	1203.8
35°	1094.5	1107.2	1132.7	1161.9	1171.0
37.5°	1050.8	1063.5	1094.5	1127.3	1138.2
40°	1005.3	1019.8	1052.6	1090.8	1105.4
42.5°	956.1	976.1	1012.5	1054.4	1070.8
45°	906.9	925.1	970.7	1018.0	1036.2
47.5°	854.1	876.0	925.1	981.6	1003.4
50°	797.6	825.0	881.4	943.3	967.0
52.5°	741.2	772.2	835.9	905.1	930.6
55°	686.6	715.7	792.2	866.8	894.2
57.5°	626.5	662.9	746.7	826.8	854.1
60°	564.5	604.6	701.1	784.9	814.0
62.5°	502.6	548.2	657.4	741.2	772.2
65°	440.7	491.7	606.4	695.7	726.6
67.5°	380.6	437.1	559.1	648.3	679.3
70°	311.4	382.4	508.1	595.5	626.5
72.5°	247.7	329.6	458.9	540.9	568.2
75°	191.2	278.6	404.3	479.0	489.9
77.5°	140.2	227.6	347.8	373.3	375.1
80°	94.7	182.1	265.9	262.2	265.9
82.5°	61.9	136.6	167.5	187.6	189.4
85°	36.4	80.1	98.3	109.3	111.1
87.5°	18.2	27.3	34.6	36.4	40.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)