

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: P309642

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CA08-W2A-U-5700K**

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: P309642  
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-5700K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5700K 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: 4362.0 lumens  
Efficiency: N/A  
Efficacy: 89.2 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

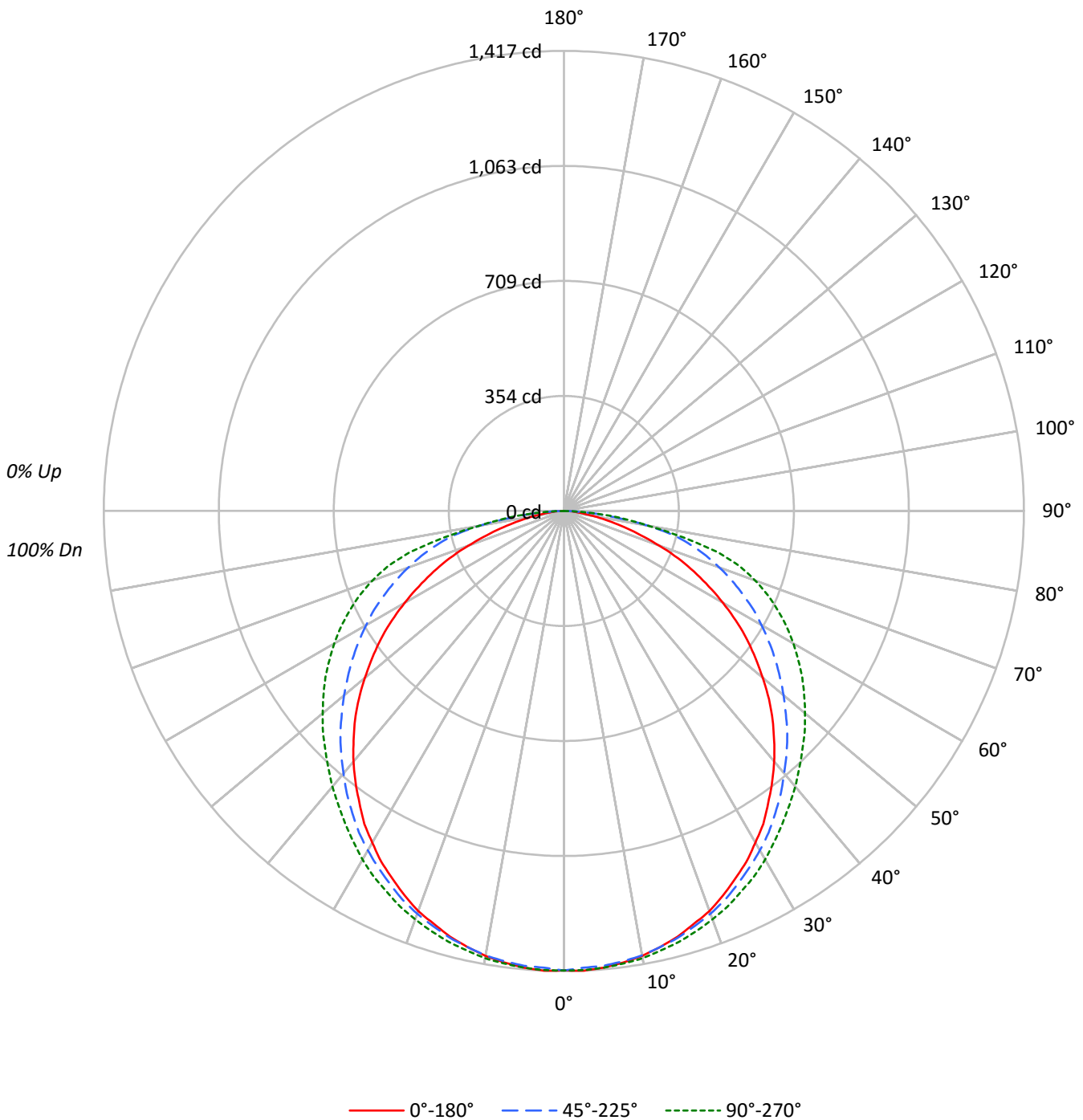
Input Watts (W): 48.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1904	1904	1904
5°	1907	1899	1907
10°	1901	1899	1911
15°	1890	1895	1913
20°	1877	1890	1917
25°	1854	1881	1919
30°	1833	1875	1926
35°	1803	1866	1929
40°	1770	1854	1947
45°	1730	1852	1977
50°	1674	1850	2030
55°	1615	1863	2103
60°	1523	1892	2197
65°	1407	1936	2320
70°	1229	2004	2471
75°	997	2108	2554
80°	736	2066	2066
85°	563	1522	1720



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.1	3.1
10°-20°	385.0	8.8
20°-30°	586.1	13.4
30°-40°	711.7	16.3
40°-50°	751.9	17.2
50°-60°	709.5	16.3
60°-70°	589.9	13.5
70°-80°	388.1	8.9
80°-90°	105.8	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°	1105.2	25.3
0°-40°	1816.9	41.7
0°-60°	3278.2	75.2
0°-90°	4362.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4362.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1415	1415	1415	1415	1415	
5°	1412	1412	1406	1412	1412	134
15°	1357	1359	1360	1373	1373	383
25°	1249	1256	1267	1289	1293	576
35°	1098	1110	1136	1165	1174	687
45°	909	928	973	1021	1039	700
55°	688	718	794	869	897	613
65°	442	493	608	698	729	437
75°	192	279	405	480	491	207
85°	36	80	99	110	111	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1415.3	1415.3	1415.3	1415.3	1415.3
2.5°	1417.1	1415.3	1407.9	1415.3	1415.3
5°	1411.6	1411.6	1406.1	1411.6	1411.6
7.5°	1402.5	1402.5	1398.8	1406.1	1406.1
10°	1391.5	1391.5	1389.7	1398.8	1398.8
12.5°	1375.1	1376.9	1375.1	1386.0	1386.0
15°	1356.8	1358.6	1360.5	1373.3	1373.3
17.5°	1333.1	1336.7	1340.4	1355.0	1356.8
20°	1311.2	1313.0	1320.3	1336.7	1338.6
22.5°	1281.9	1287.4	1296.6	1313.0	1318.5
25°	1249.1	1256.4	1267.3	1289.3	1292.9
27.5°	1218.0	1223.5	1238.1	1261.9	1269.2
30°	1179.7	1188.8	1207.1	1230.8	1239.9
32.5°	1143.2	1152.3	1174.2	1199.8	1207.1
35°	1097.5	1110.3	1135.9	1165.1	1174.2
37.5°	1053.7	1066.5	1097.5	1130.4	1141.3
40°	1008.0	1022.6	1055.5	1093.9	1108.5
42.5°	958.7	978.8	1015.3	1057.3	1073.8
45°	909.4	927.7	973.3	1020.8	1039.1
47.5°	856.5	878.4	927.7	984.3	1006.2
50°	799.8	827.2	883.8	945.9	969.7
52.5°	743.2	774.3	838.2	907.6	933.2
55°	688.5	717.7	794.4	869.2	896.6
57.5°	628.2	664.7	748.7	829.1	856.5
60°	566.1	606.3	703.1	787.1	816.3
62.5°	504.0	549.7	659.2	743.2	774.3
65°	441.9	493.1	608.1	697.6	728.6
67.5°	381.7	438.3	560.6	650.1	681.1
70°	312.3	383.5	509.5	597.1	628.2
72.5°	248.4	330.5	460.2	542.4	569.8
75°	191.7	279.4	405.4	480.3	491.2
77.5°	140.6	228.3	348.8	374.4	376.2
80°	95.0	182.6	266.6	263.0	266.6
82.5°	62.1	137.0	168.0	188.1	189.9
85°	36.5	80.3	98.6	109.6	111.4
87.5°	18.3	27.4	34.7	36.5	40.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)