

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: P311476

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP250-W2A-U-5000K**

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: P311476  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-45HE-UNV-L82765-S-CP250-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (336) 5000K 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: 4117.0 lumens  
Efficiency: N/A  
Efficacy: 119.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

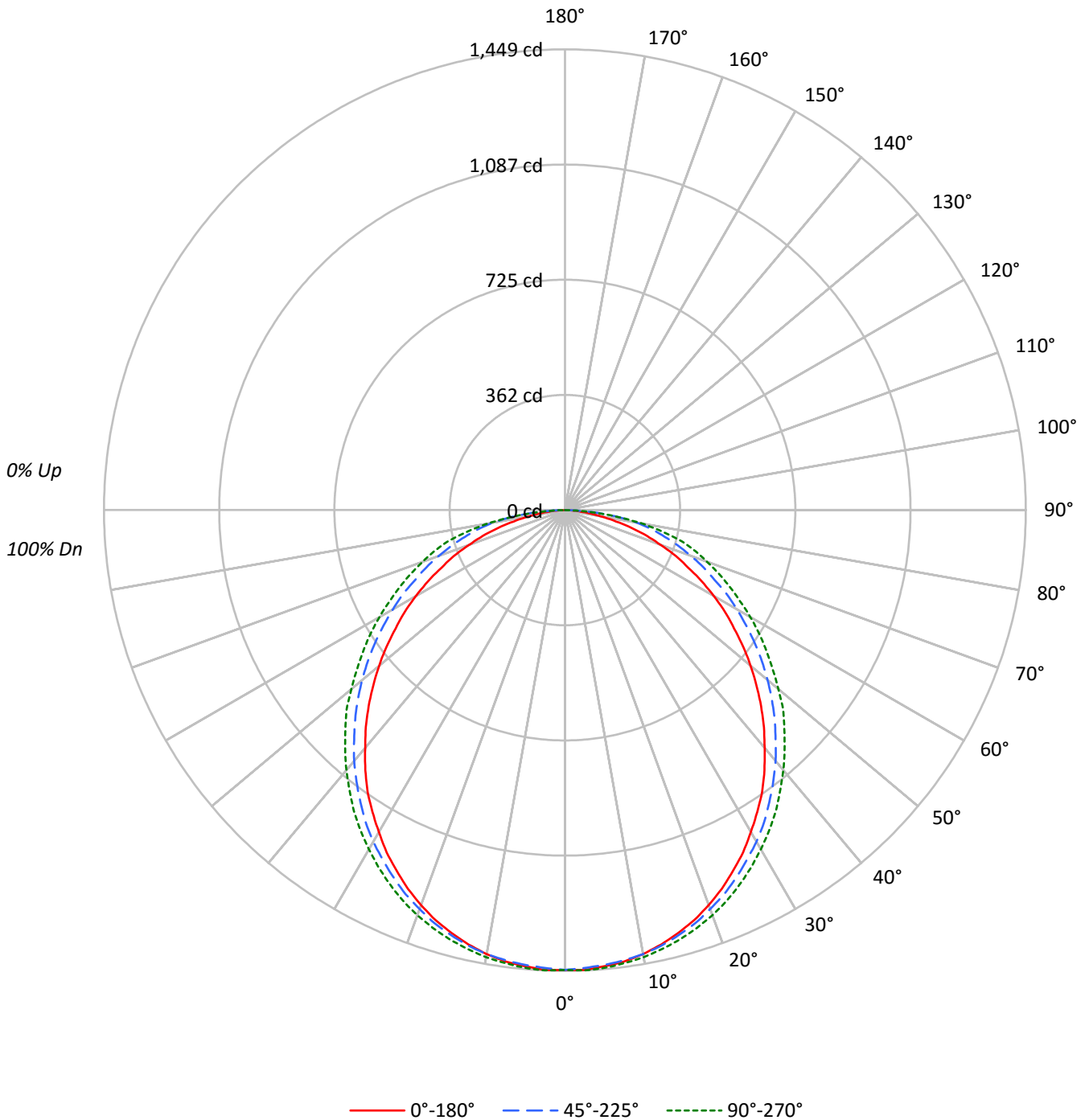
Input Watts (W): 34.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	1946	1946	1946
5°	1945	1939	1952
10°	1937	1937	1951
15°	1918	1927	1947
20°	1893	1912	1942
25°	1858	1893	1930
30°	1816	1871	1914
35°	1776	1841	1899
40°	1716	1810	1877
45°	1660	1774	1856
50°	1596	1741	1834
55°	1525	1709	1816
60°	1453	1682	1812
65°	1361	1653	1824
70°	1260	1662	1873
75°	1129	1693	1978
80°	912	1794	1936
85°	687	1575	1535



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.9	3.3
10°-20°	391.2	9.5
20°-30°	588.1	14.3
30°-40°	700.6	17.0
40°-50°	717.0	17.4
50°-60°	645.5	15.7
60°-70°	506.9	12.3
70°-80°	329.0	8.0
80°-90°	101.8	2.5
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°	1116.3	27.1
0°-40°	1816.8	44.1
0°-60°	3179.3	77.2
0°-90°	4117.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4117.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1446	1446	1446	1446	1446	
5°	1440	1442	1436	1444	1445	137
15°	1377	1381	1384	1395	1398	388
25°	1252	1262	1275	1296	1300	577
35°	1082	1095	1121	1148	1156	675
45°	872	893	932	968	976	672
55°	650	679	728	766	774	583
65°	428	460	519	562	573	426
75°	217	259	326	370	380	230
85°	44	82	102	99	99	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1446.3	1446.3	1446.3	1446.3	1446.3
2.5°	1447.6	1447.6	1441.1	1447.6	1448.9
5°	1439.8	1442.4	1435.9	1443.7	1445.0
7.5°	1431.9	1431.9	1428.0	1435.9	1437.2
10°	1417.6	1418.9	1417.6	1426.7	1428.0
12.5°	1399.3	1401.9	1403.2	1412.3	1413.6
15°	1377.0	1380.9	1383.6	1395.3	1397.9
17.5°	1352.2	1356.1	1362.6	1375.7	1378.3
20°	1322.1	1327.3	1335.2	1352.2	1356.1
22.5°	1289.4	1294.6	1307.7	1323.4	1329.9
25°	1251.5	1261.9	1275.0	1295.9	1299.9
27.5°	1213.6	1222.7	1239.7	1261.9	1267.2
30°	1169.1	1183.5	1204.4	1226.6	1231.9
32.5°	1125.9	1140.3	1165.2	1188.7	1195.2
35°	1081.5	1094.6	1120.7	1148.2	1156.0
37.5°	1030.5	1047.5	1076.2	1103.7	1111.6
40°	976.9	997.8	1030.5	1059.2	1068.4
42.5°	925.9	948.1	980.8	1012.2	1022.6
45°	872.2	893.2	932.4	967.7	975.6
47.5°	817.3	840.9	882.7	918.0	931.1
50°	762.4	787.2	831.7	868.3	876.2
52.5°	707.5	733.6	780.7	819.9	823.9
55°	649.9	678.7	728.4	766.3	774.2
57.5°	597.6	622.5	676.1	715.3	724.5
60°	540.1	567.5	625.1	661.7	673.5
62.5°	485.2	513.9	574.1	610.7	621.2
65°	427.6	460.3	519.2	562.3	572.8
67.5°	377.9	409.3	472.1	513.9	524.4
70°	320.4	355.7	422.4	465.5	476.0
72.5°	270.7	307.3	374.0	415.9	431.5
75°	217.1	258.9	325.6	370.1	380.5
77.5°	164.8	213.2	281.2	315.2	315.2
80°	117.7	168.7	231.5	247.2	249.8
82.5°	77.2	126.8	171.3	170.0	170.0
85°	44.5	82.4	102.0	99.4	99.4
87.5°	17.0	34.0	36.6	36.6	35.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)