

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: P311477

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP250-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: P311477  
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-5500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB 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: 4158.0 lumens  
Efficiency: N/A  
Efficacy: 119.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

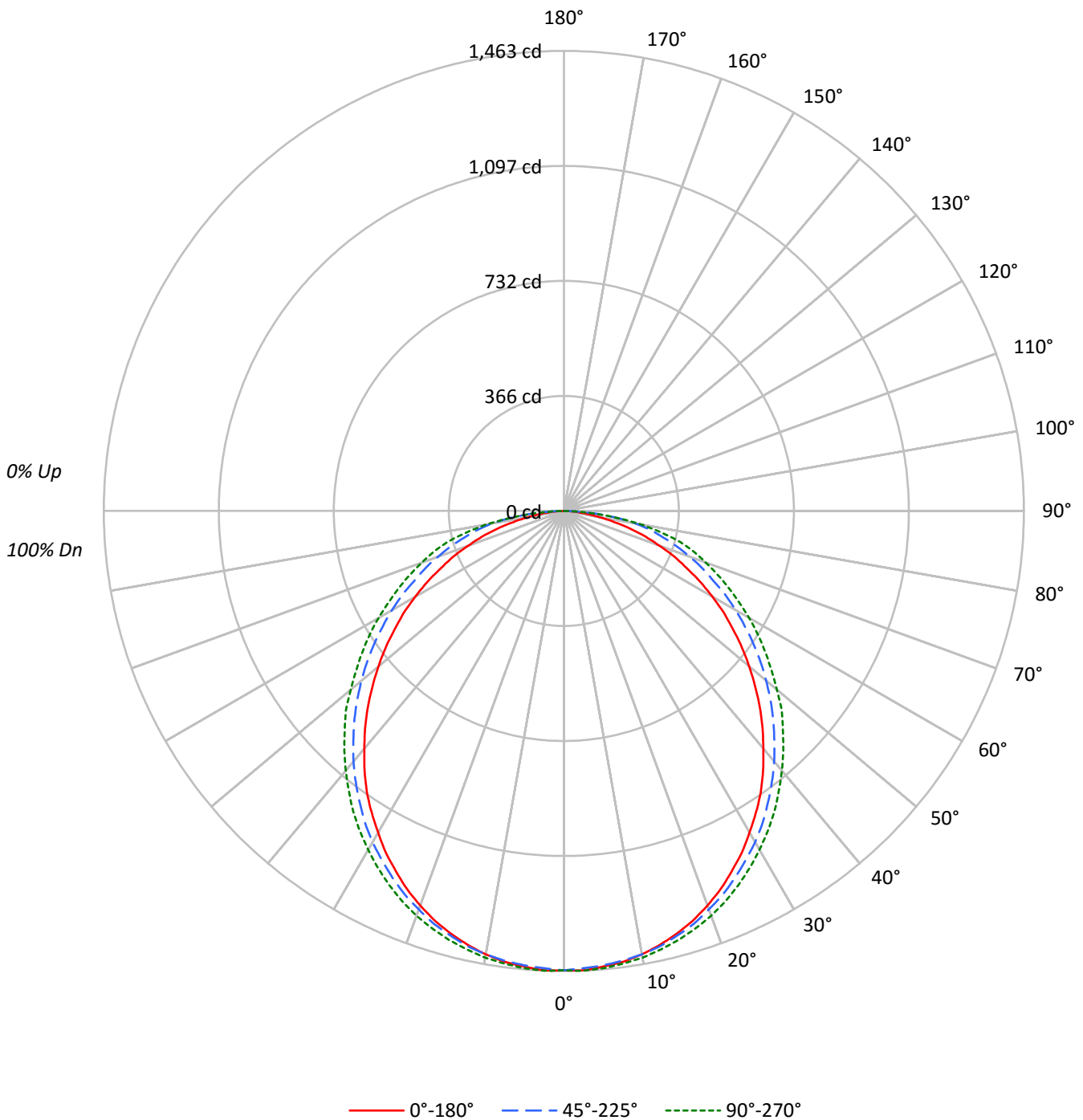
Input Watts (W): 34.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1965	1965	1965
5°	1964	1959	1971
10°	1956	1956	1970
15°	1937	1946	1967
20°	1912	1931	1961
25°	1876	1912	1949
30°	1834	1890	1933
35°	1794	1859	1918
40°	1733	1828	1895
45°	1676	1792	1875
50°	1612	1758	1852
55°	1540	1726	1834
60°	1468	1699	1830
65°	1375	1669	1842
70°	1273	1678	1891
75°	1140	1710	1998
80°	921	1812	1955
85°	693	1590	1550



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.3	3.3
10°-20°	395.1	9.5
20°-30°	594.0	14.3
30°-40°	707.5	17.0
40°-50°	724.1	17.4
50°-60°	651.9	15.7
60°-70°	512.0	12.3
70°-80°	332.3	8.0
80°-90°	102.8	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°	1127.4	27.1
0°-40°	1834.9	44.1
0°-60°	3211.0	77.2
0°-90°	4158.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4158.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1461	1461	1461	1461	1461	
5°	1454	1457	1450	1458	1459	138
15°	1391	1395	1397	1409	1412	392
25°	1264	1274	1288	1309	1313	582
35°	1092	1106	1132	1160	1168	681
45°	881	902	942	977	985	679
55°	656	686	736	774	782	588
65°	432	465	524	568	578	430
75°	219	262	329	374	384	232
85°	45	83	103	100	100	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1460.7	1460.7	1460.7	1460.7	1460.7
2.5°	1462.1	1462.1	1455.4	1462.1	1463.4
5°	1454.1	1456.8	1450.2	1458.1	1459.4
7.5°	1446.2	1446.2	1442.2	1450.2	1451.5
10°	1431.7	1433.0	1431.7	1440.9	1442.2
12.5°	1413.2	1415.8	1417.1	1426.4	1427.7
15°	1390.7	1394.7	1397.3	1409.2	1411.9
17.5°	1365.6	1369.6	1376.2	1389.4	1392.1
20°	1335.3	1340.5	1348.5	1365.6	1369.6
22.5°	1302.2	1307.5	1320.7	1336.6	1343.2
25°	1263.9	1274.5	1287.7	1308.8	1312.8
27.5°	1225.6	1234.9	1252.1	1274.5	1279.8
30°	1180.7	1195.3	1216.4	1238.8	1244.1
32.5°	1137.2	1151.7	1176.8	1200.5	1207.2
35°	1092.2	1105.5	1131.9	1159.6	1167.5
37.5°	1040.7	1057.9	1087.0	1114.7	1122.6
40°	986.6	1007.7	1040.7	1069.8	1079.0
42.5°	935.1	957.5	990.6	1022.2	1032.8
45°	880.9	902.1	941.7	977.3	985.3
47.5°	825.5	849.2	891.5	927.2	940.4
50°	770.0	795.1	840.0	877.0	884.9
52.5°	714.5	740.9	788.5	828.1	832.1
55°	656.4	685.5	735.6	774.0	781.9
57.5°	603.6	628.7	682.8	722.4	731.7
60°	545.5	573.2	631.3	668.3	680.2
62.5°	490.0	519.0	579.8	616.8	627.3
65°	431.9	464.9	524.3	567.9	578.5
67.5°	381.7	413.4	476.8	519.0	529.6
70°	323.6	359.2	426.6	470.2	480.7
72.5°	273.4	310.4	377.7	420.0	435.8
75°	219.2	261.5	328.9	373.8	384.3
77.5°	166.4	215.3	284.0	318.3	318.3
80°	118.9	170.4	233.8	249.6	252.3
82.5°	77.9	128.1	173.0	171.7	171.7
85°	44.9	83.2	103.0	100.4	100.4
87.5°	17.2	34.3	37.0	37.0	35.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)