

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: P311479

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP250-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: P311479  
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-6500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB 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: 4180.0 lumens  
Efficiency: N/A  
Efficacy: 118.4 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

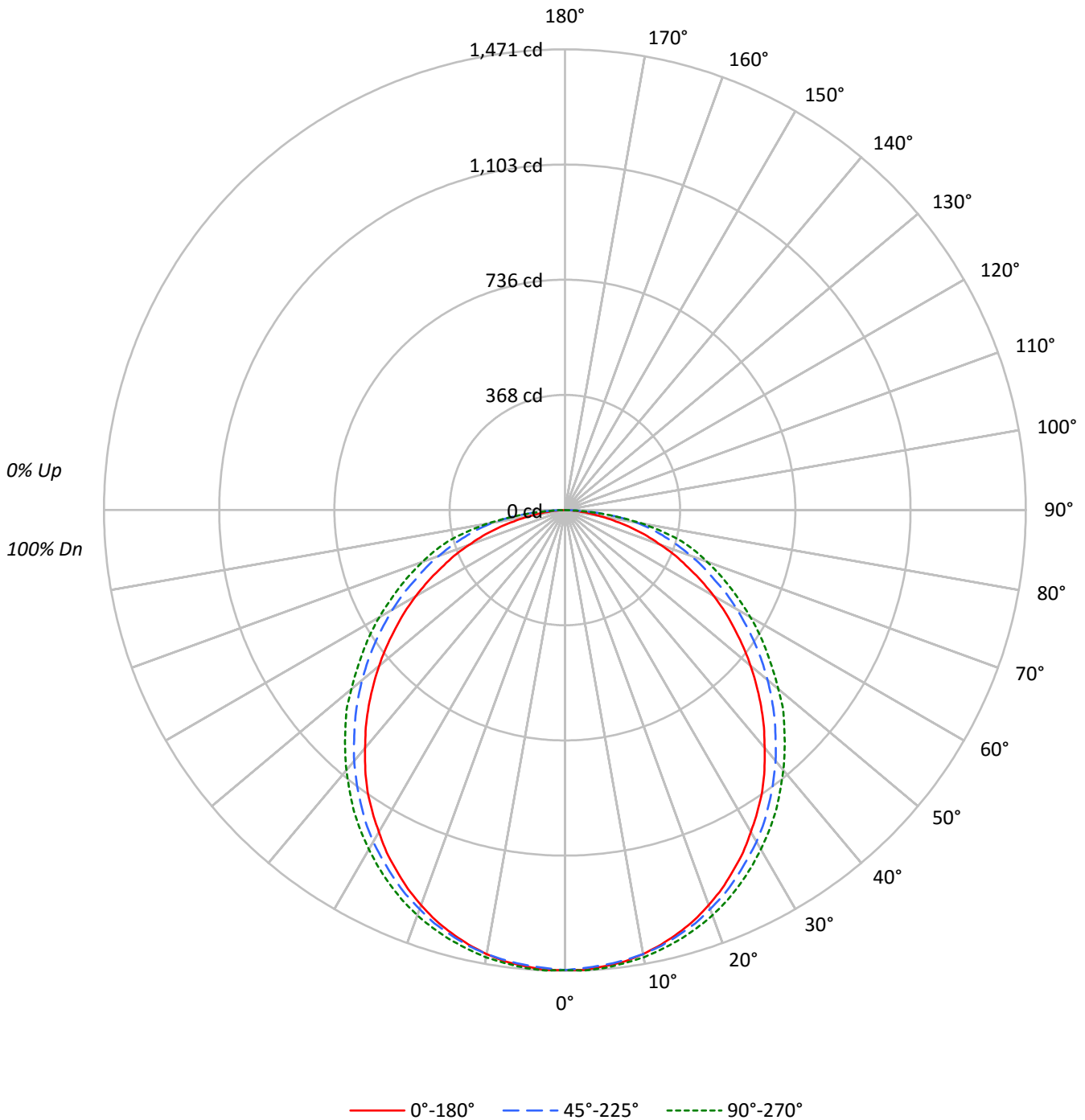
Input Watts (W): 35.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1976	1976	1976
5°	1974	1969	1982
10°	1966	1966	1981
15°	1947	1957	1977
20°	1922	1941	1971
25°	1886	1922	1959
30°	1844	1900	1943
35°	1804	1869	1928
40°	1742	1838	1905
45°	1685	1801	1885
50°	1620	1768	1862
55°	1548	1735	1844
60°	1475	1708	1840
65°	1382	1678	1851
70°	1280	1687	1901
75°	1146	1719	2009
80°	926	1821	1965
85°	696	1599	1558



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.0	3.3
10°-20°	397.2	9.5
20°-30°	597.1	14.3
30°-40°	711.3	17.0
40°-50°	728.0	17.4
50°-60°	655.4	15.7
60°-70°	514.7	12.3
70°-80°	334.0	8.0
80°-90°	103.3	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°	1133.4	27.1
0°-40°	1844.6	44.1
0°-60°	3228.0	77.2
0°-90°	4180.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4180.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1468	1468	1468	1468	1468	
5°	1462	1464	1458	1466	1467	139
15°	1398	1402	1405	1417	1419	394
25°	1271	1281	1294	1316	1320	585
35°	1098	1111	1138	1166	1174	685
45°	886	907	947	982	990	683
55°	660	689	740	778	786	592
65°	434	467	527	571	582	432
75°	220	263	331	376	386	233
85°	45	84	104	101	101	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1468.5	1468.5	1468.5	1468.5	1468.5
2.5°	1469.8	1469.8	1463.2	1469.8	1471.1
5°	1461.8	1464.5	1457.8	1465.8	1467.1
7.5°	1453.9	1453.9	1449.9	1457.8	1459.2
10°	1439.3	1440.6	1439.3	1448.5	1449.9
12.5°	1420.7	1423.3	1424.6	1433.9	1435.3
15°	1398.1	1402.1	1404.7	1416.7	1419.3
17.5°	1372.9	1376.8	1383.5	1396.8	1399.4
20°	1342.3	1347.6	1355.6	1372.9	1376.8
22.5°	1309.1	1314.4	1327.7	1343.7	1350.3
25°	1270.6	1281.3	1294.5	1315.8	1319.8
27.5°	1232.1	1241.4	1258.7	1281.3	1286.6
30°	1187.0	1201.6	1222.8	1245.4	1250.7
32.5°	1143.2	1157.8	1183.0	1206.9	1213.5
35°	1098.0	1111.3	1137.9	1165.7	1173.7
37.5°	1046.2	1063.5	1092.7	1120.6	1128.6
40°	991.8	1013.1	1046.2	1075.5	1084.7
42.5°	940.0	962.6	995.8	1027.7	1038.3
45°	885.6	906.8	946.7	982.5	990.5
47.5°	829.8	853.7	896.2	932.1	945.3
50°	774.1	799.3	844.4	881.6	889.6
52.5°	718.3	744.9	792.7	832.5	836.5
55°	659.9	689.1	739.5	778.0	786.0
57.5°	606.8	632.0	686.4	726.3	735.6
60°	548.3	576.2	634.7	671.8	683.8
62.5°	492.6	521.8	582.9	620.0	630.7
65°	434.2	467.4	527.1	570.9	581.5
67.5°	383.7	415.6	479.3	521.8	532.4
70°	325.3	361.1	428.9	472.7	483.3
72.5°	274.8	312.0	379.7	422.2	438.1
75°	220.4	262.9	330.6	375.7	386.4
77.5°	167.3	216.4	285.5	320.0	320.0
80°	119.5	171.3	235.0	250.9	253.6
82.5°	78.3	128.8	173.9	172.6	172.6
85°	45.1	83.6	103.6	100.9	100.9
87.5°	17.3	34.5	37.2	37.2	35.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)