

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: P311564

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-4000K**

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: P311564
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: 24FCZ2-50HE-UNV-L82765-S-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4000K 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: 4473.0 lumens
Efficiency: N/A
Efficacy: 115.3 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

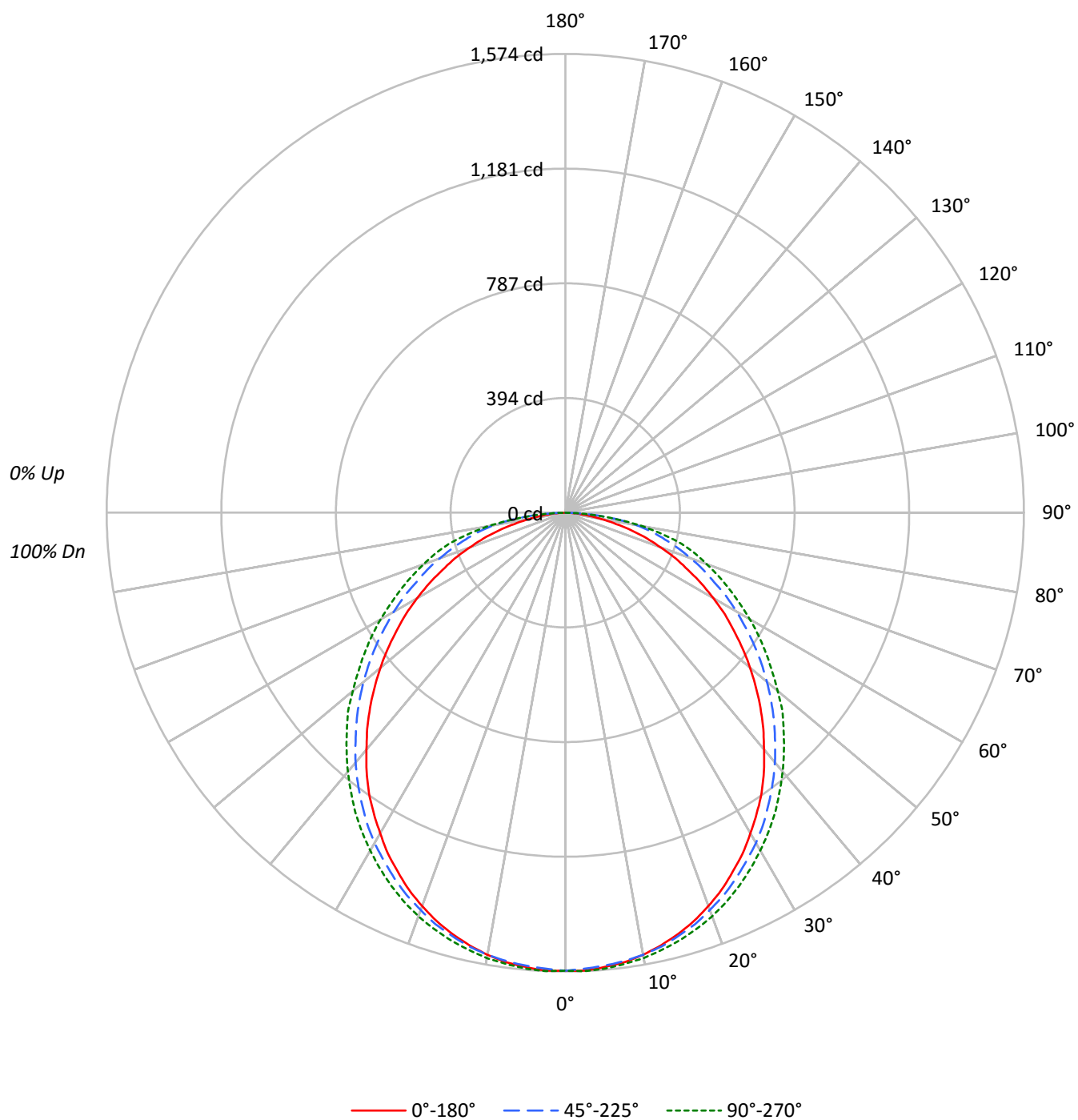
Input Watts (W): 38.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2114	2114	2114
5°	2113	2107	2120
10°	2104	2104	2120
15°	2084	2094	2116
20°	2057	2077	2110
25°	2019	2057	2097
30°	1973	2033	2079
35°	1930	2000	2063
40°	1864	1966	2039
45°	1803	1928	2017
50°	1734	1891	1993
55°	1656	1856	1973
60°	1579	1827	1969
65°	1479	1796	1981
70°	1369	1805	2035
75°	1226	1839	2149
80°	991	1949	2103
85°	746	1711	1667



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.8	3.3
10°-20°	425.1	9.5
20°-30°	639.0	14.3
30°-40°	761.1	17.0
40°-50°	779.0	17.4
50°-60°	701.3	15.7
60°-70°	550.8	12.3
70°-80°	357.5	8.0
80°-90°	110.6	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°	1212.8	27.1
0°-40°	1974.0	44.1
0°-60°	3454.2	77.2
0°-90°	4473.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4473.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1571	1571	1571	1571	1571	
5°	1564	1567	1560	1569	1570	149
15°	1496	1500	1503	1516	1519	422
25°	1360	1371	1385	1408	1412	626
35°	1175	1189	1218	1248	1256	733
45°	948	970	1013	1051	1060	731
55°	706	737	791	833	841	633
65°	465	500	564	611	622	462
75°	236	281	354	402	413	250
85°	48	90	111	108	108	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1571.4	1571.4	1571.4	1571.4	1571.4
2.5°	1572.8	1572.8	1565.7	1572.8	1574.2
5°	1564.3	1567.1	1560.0	1568.6	1570.0
7.5°	1555.8	1555.8	1551.5	1560.0	1561.4
10°	1540.1	1541.6	1540.1	1550.1	1551.5
12.5°	1520.2	1523.1	1524.5	1534.5	1535.9
15°	1496.1	1500.4	1503.2	1516.0	1518.8
17.5°	1469.1	1473.4	1480.5	1494.7	1497.5
20°	1436.4	1442.1	1450.6	1469.1	1473.4
22.5°	1400.9	1406.6	1420.8	1437.8	1444.9
25°	1359.7	1371.1	1385.3	1408.0	1412.3
27.5°	1318.5	1328.4	1346.9	1371.1	1376.7
30°	1270.2	1285.8	1308.5	1332.7	1338.4
32.5°	1223.3	1238.9	1265.9	1291.5	1298.6
35°	1175.0	1189.2	1217.6	1247.5	1256.0
37.5°	1119.6	1138.1	1169.3	1199.1	1207.7
40°	1061.3	1084.1	1119.6	1150.8	1160.8
42.5°	1005.9	1030.1	1065.6	1099.7	1111.1
45°	947.7	970.4	1013.0	1051.4	1059.9
47.5°	888.0	913.6	959.0	997.4	1011.6
50°	828.3	855.3	903.6	943.4	951.9
52.5°	768.6	797.1	848.2	890.8	895.1
55°	706.1	737.4	791.4	832.6	841.1
57.5°	649.3	676.3	734.5	777.2	787.1
60°	586.8	616.6	679.1	718.9	731.7
62.5°	527.1	558.4	623.7	663.5	674.9
65°	464.6	500.1	564.1	610.9	622.3
67.5°	410.6	444.7	512.9	558.4	569.7
70°	348.1	386.5	458.9	505.8	517.2
72.5°	294.1	333.9	406.3	451.8	468.9
75°	235.9	281.3	353.8	402.1	413.4
77.5°	179.0	231.6	305.5	342.4	342.4
80°	127.9	183.3	251.5	268.5	271.4
82.5°	83.8	137.8	186.1	184.7	184.7
85°	48.3	89.5	110.8	108.0	108.0
87.5°	18.5	36.9	39.8	39.8	38.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)