

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: P311603

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CP187-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: P311603
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: 24FCZ2-50-UNV-L82765-S-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 4675.0 lumens
Efficiency: N/A
Efficacy: 106.5 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

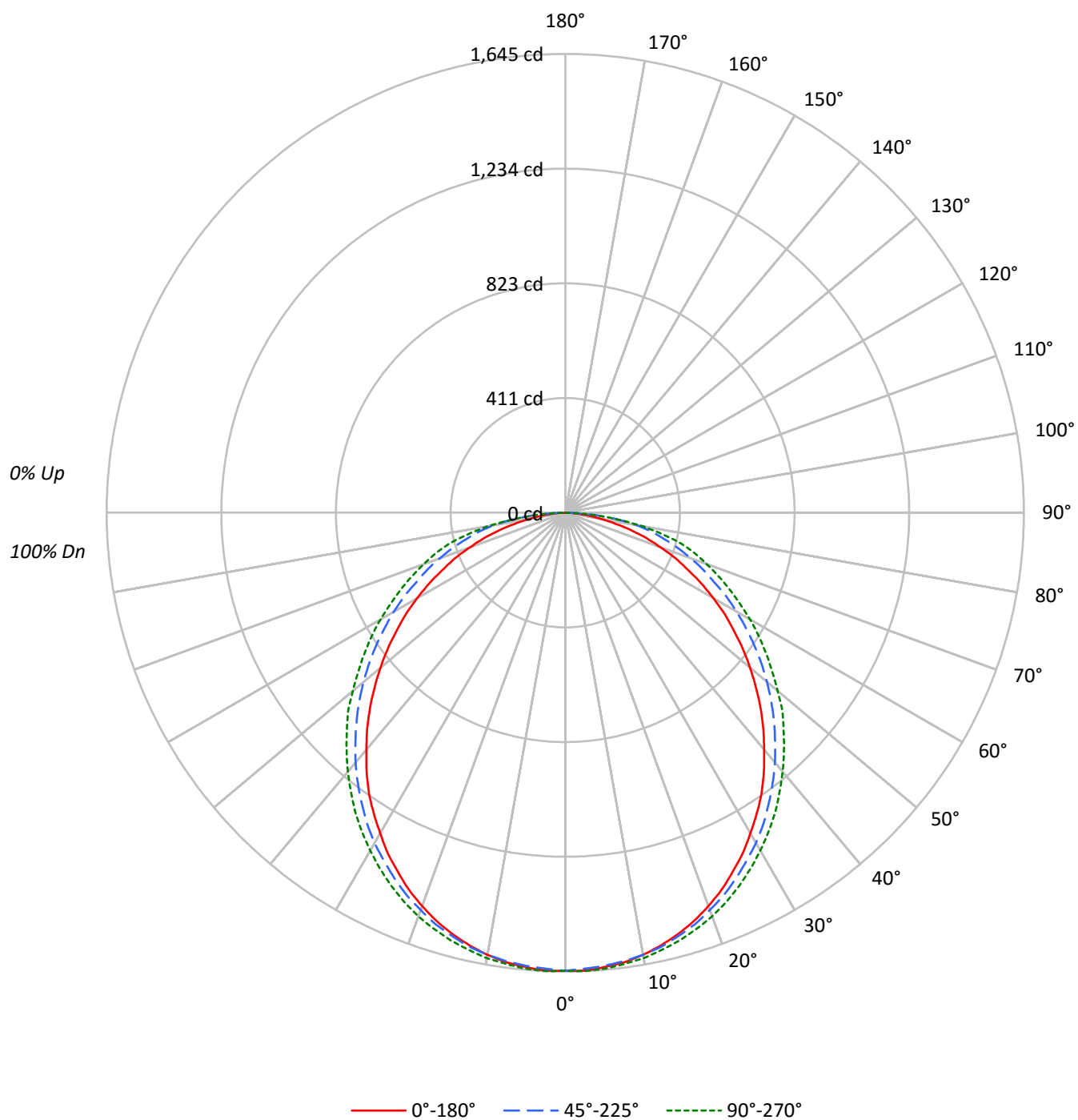
Input Watts (W): 43.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	2210	2210	2210
5°	2208	2202	2216
10°	2199	2199	2216
15°	2178	2188	2211
20°	2150	2171	2205
25°	2110	2149	2191
30°	2062	2125	2173
35°	2017	2090	2156
40°	1948	2055	2131
45°	1885	2015	2108
50°	1812	1977	2083
55°	1731	1940	2062
60°	1650	1910	2058
65°	1546	1877	2071
70°	1431	1887	2126
75°	1281	1922	2246
80°	1035	2036	2197
85°	780	1788	1743



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.5	3.3
10°-20°	444.3	9.5
20°-30°	667.8	14.3
30°-40°	795.5	17.0
40°-50°	814.2	17.4
50°-60°	733.0	15.7
60°-70°	575.6	12.3
70°-80°	373.6	8.0
80°-90°	115.5	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°	1267.6	27.1
0°-40°	2063.1	44.1
0°-60°	3610.2	77.2
0°-90°	4675.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4675.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1642	1642	1642	1642	1642	
5°	1635	1638	1630	1639	1641	155
15°	1564	1568	1571	1584	1587	441
25°	1421	1433	1448	1472	1476	655
35°	1228	1243	1273	1304	1313	766
45°	990	1014	1059	1099	1108	764
55°	738	771	827	870	879	662
65°	486	523	590	638	650	483
75°	246	294	370	420	432	261
85°	50	94	116	113	113	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1642.4	1642.4	1642.4	1642.4	1642.4
2.5°	1643.8	1643.8	1636.4	1643.8	1645.3
5°	1634.9	1637.9	1630.5	1639.4	1640.9
7.5°	1626.0	1626.0	1621.6	1630.5	1632.0
10°	1609.7	1611.2	1609.7	1620.1	1621.6
12.5°	1588.9	1591.9	1593.4	1603.7	1605.2
15°	1563.7	1568.1	1571.1	1584.4	1587.4
17.5°	1535.4	1539.9	1547.3	1562.2	1565.1
20°	1501.3	1507.2	1516.1	1535.4	1539.9
22.5°	1464.2	1470.1	1485.0	1502.8	1510.2
25°	1421.1	1433.0	1447.8	1471.6	1476.0
27.5°	1378.0	1388.4	1407.7	1433.0	1438.9
30°	1327.5	1343.9	1367.6	1392.9	1398.8
32.5°	1278.5	1294.9	1323.1	1349.8	1357.2
35°	1228.1	1242.9	1272.6	1303.8	1312.7
37.5°	1170.1	1189.4	1222.1	1253.3	1262.2
40°	1109.3	1133.0	1170.1	1202.8	1213.2
42.5°	1051.3	1076.6	1113.7	1149.4	1161.2
45°	990.5	1014.2	1058.8	1098.9	1107.8
47.5°	928.1	954.8	1002.3	1042.4	1057.3
50°	865.7	893.9	944.4	986.0	994.9
52.5°	803.4	833.1	886.5	931.1	935.5
55°	738.0	770.7	827.1	870.2	879.1
57.5°	678.6	706.8	767.7	812.3	822.7
60°	613.3	644.5	709.8	751.4	764.8
62.5°	550.9	583.6	651.9	693.5	705.4
65°	485.6	522.7	589.5	638.5	650.4
67.5°	429.2	464.8	536.1	583.6	595.5
70°	363.8	403.9	479.6	528.6	540.5
72.5°	307.4	349.0	424.7	472.2	490.0
75°	246.5	294.0	369.8	420.2	432.1
77.5°	187.1	242.0	319.3	357.9	357.9
80°	133.6	191.6	262.8	280.7	283.6
82.5°	87.6	144.0	194.5	193.0	193.0
85°	50.5	93.6	115.8	112.9	112.9
87.5°	19.3	38.6	41.6	41.6	40.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)