

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: P314407

Luminaire Tested: **24FCZ2-50-UNV-L83050-S-CP187-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: P314407
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-L83050-S-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 4721.0 lumens
Efficiency: N/A
Efficacy: 108.0 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

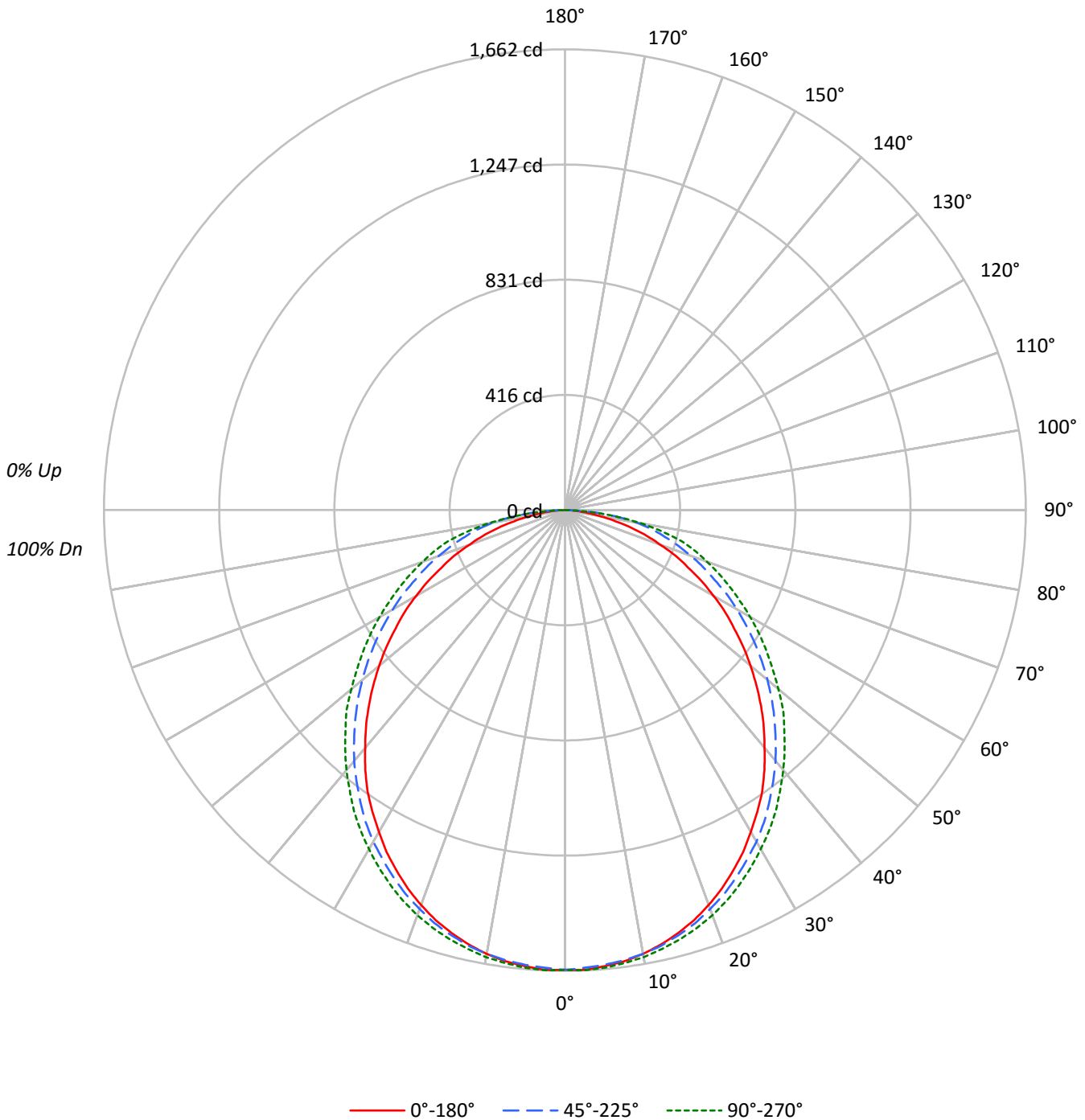
Input Watts (W): 43.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2231	2231	2231
5°	2230	2224	2238
10°	2221	2221	2237
15°	2199	2210	2233
20°	2171	2192	2227
25°	2131	2171	2213
30°	2083	2146	2195
35°	2037	2111	2177
40°	1968	2076	2152
45°	1903	2034	2129
50°	1830	1996	2103
55°	1748	1959	2082
60°	1667	1929	2078
65°	1561	1895	2091
70°	1445	1906	2147
75°	1294	1941	2269
80°	1046	2056	2219
85°	787	1806	1760



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.0	3.3
10°-20°	448.6	9.5
20°-30°	674.4	14.3
30°-40°	803.3	17.0
40°-50°	822.2	17.4
50°-60°	740.2	15.7
60°-70°	581.3	12.3
70°-80°	377.3	8.0
80°-90°	116.7	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°	1280.1	27.1
0°-40°	2083.4	44.1
0°-60°	3645.8	77.2
0°-90°	4721.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4721.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1658	1658	1658	1658	1658	
5°	1651	1654	1646	1656	1657	157
15°	1579	1584	1586	1600	1603	445
25°	1435	1447	1462	1486	1491	661
35°	1240	1255	1285	1317	1326	774
45°	1000	1024	1069	1110	1119	771
55°	745	778	835	879	888	668
65°	490	528	595	645	657	488
75°	249	297	373	424	436	263
85°	51	94	117	114	114	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1658.5	1658.5	1658.5	1658.5	1658.5
2.5°	1660.0	1660.0	1652.5	1660.0	1661.5
5°	1651.0	1654.0	1646.5	1655.5	1657.0
7.5°	1642.0	1642.0	1637.5	1646.5	1648.0
10°	1625.5	1627.0	1625.5	1636.0	1637.5
12.5°	1604.5	1607.5	1609.0	1619.5	1621.0
15°	1579.0	1583.5	1586.5	1600.0	1603.0
17.5°	1550.5	1555.0	1562.5	1577.5	1580.5
20°	1516.1	1522.1	1531.1	1550.5	1555.0
22.5°	1478.6	1484.6	1499.6	1517.6	1525.1
25°	1435.1	1447.1	1462.1	1486.1	1490.6
27.5°	1391.6	1402.1	1421.6	1447.1	1453.1
30°	1340.6	1357.1	1381.1	1406.6	1412.6
32.5°	1291.1	1307.6	1336.1	1363.1	1370.6
35°	1240.1	1255.1	1285.1	1316.6	1325.6
37.5°	1181.7	1201.2	1234.1	1265.6	1274.6
40°	1120.2	1144.2	1181.7	1214.6	1225.1
42.5°	1061.7	1087.2	1124.7	1160.7	1172.7
45°	1000.2	1024.2	1069.2	1109.7	1118.7
47.5°	937.2	964.2	1012.2	1052.7	1067.7
50°	874.2	902.7	953.7	995.7	1004.7
52.5°	811.3	841.3	895.2	940.2	944.7
55°	745.3	778.3	835.3	878.7	887.7
57.5°	685.3	713.8	775.3	820.3	830.8
60°	619.3	650.8	716.8	758.8	772.3
62.5°	556.3	589.3	658.3	700.3	712.3
65°	490.4	527.8	595.3	644.8	656.8
67.5°	433.4	469.4	541.3	589.3	601.3
70°	367.4	407.9	484.4	533.8	545.8
72.5°	310.4	352.4	428.9	476.9	494.9
75°	248.9	296.9	373.4	424.4	436.4
77.5°	188.9	244.4	322.4	361.4	361.4
80°	135.0	193.4	265.4	283.4	286.4
82.5°	88.5	145.5	196.4	194.9	194.9
85°	51.0	94.5	117.0	114.0	114.0
87.5°	19.5	39.0	42.0	42.0	40.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)