

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: P311515

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CP187-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: P311515
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: 24FCZ2-45-UNV-L82765-S-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 4258.0 lumens
Efficiency: N/A
Efficacy: 108.3 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

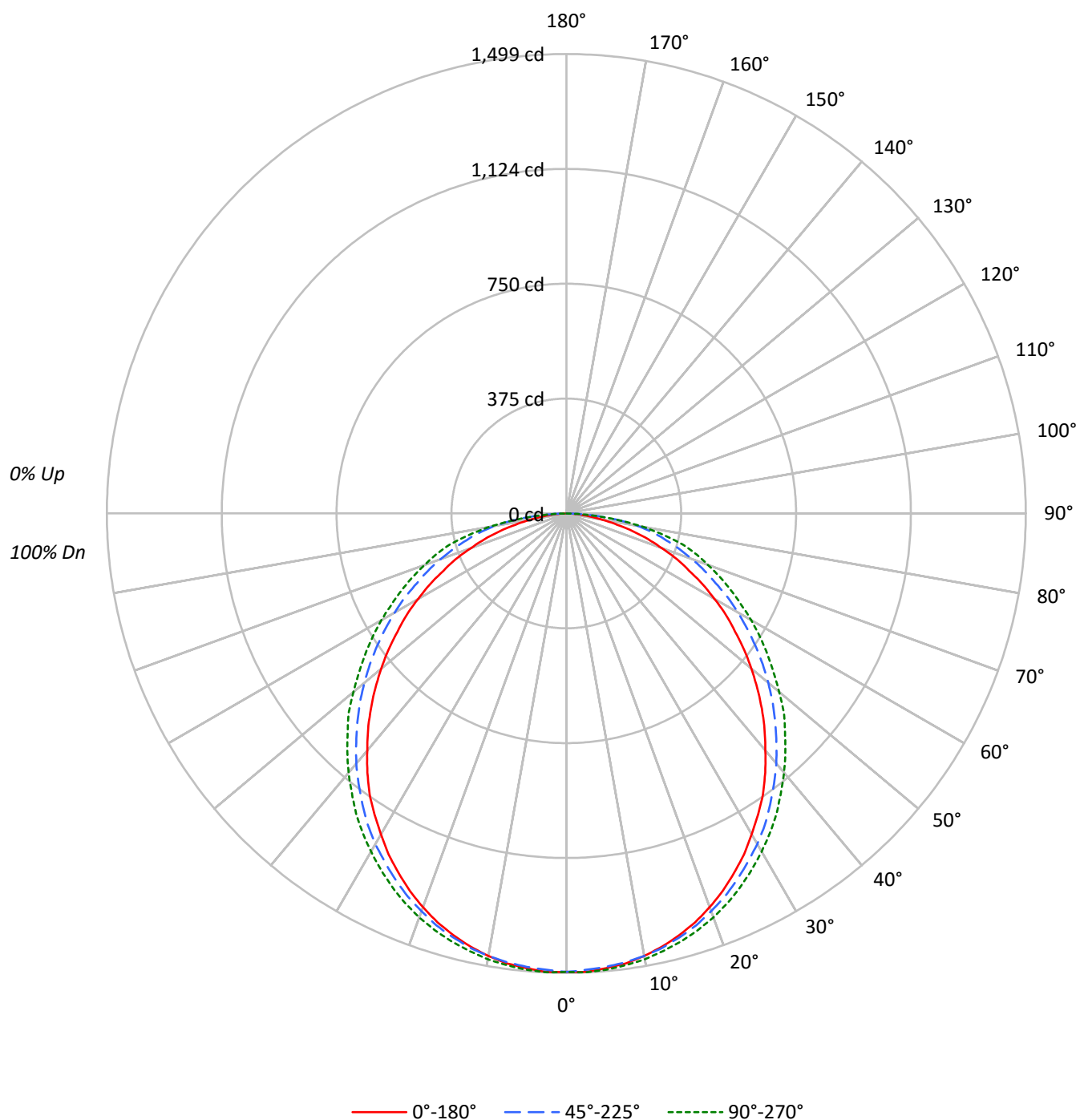
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2013	2013	2013
5°	2011	2006	2019
10°	2003	2003	2018
15°	1984	1993	2014
20°	1958	1977	2008
25°	1921	1958	1996
30°	1879	1935	1979
35°	1837	1904	1964
40°	1775	1872	1941
45°	1717	1835	1920
50°	1650	1801	1897
55°	1577	1767	1878
60°	1503	1740	1874
65°	1408	1709	1886
70°	1304	1719	1937
75°	1167	1751	2046
80°	943	1855	2001
85°	710	1629	1587



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.6	3.3
10°-20°	404.6	9.5
20°-30°	608.3	14.3
30°-40°	724.5	17.0
40°-50°	741.5	17.4
50°-60°	667.6	15.7
60°-70°	524.3	12.3
70°-80°	340.3	8.0
80°-90°	105.2	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°	1154.5	27.1
0°-40°	1879.1	44.1
0°-60°	3288.2	77.2
0°-90°	4258.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4258.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1496	1496	1496	1496	1496	
5°	1489	1492	1485	1493	1494	141
15°	1424	1428	1431	1443	1446	402
25°	1294	1305	1319	1340	1344	596
35°	1118	1132	1159	1188	1196	698
45°	902	924	964	1001	1009	695
55°	672	702	753	793	801	603
65°	442	476	537	582	592	440
75°	224	268	337	383	394	238
85°	46	85	106	103	103	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1495.9	1495.9	1495.9	1495.9	1495.9
2.5°	1497.2	1497.2	1490.5	1497.2	1498.6
5°	1489.1	1491.8	1485.0	1493.2	1494.5
7.5°	1481.0	1481.0	1476.9	1485.0	1486.4
10°	1466.1	1467.5	1466.1	1475.6	1476.9
12.5°	1447.2	1449.9	1451.2	1460.7	1462.1
15°	1424.2	1428.2	1430.9	1443.1	1445.8
17.5°	1398.5	1402.5	1409.3	1422.8	1425.5
20°	1367.4	1372.8	1380.9	1398.5	1402.5
22.5°	1333.6	1339.0	1352.5	1368.7	1375.5
25°	1294.3	1305.2	1318.7	1340.3	1344.4
27.5°	1255.1	1264.6	1282.2	1305.2	1310.6
30°	1209.1	1224.0	1245.7	1268.6	1274.1
32.5°	1164.5	1179.4	1205.1	1229.4	1236.2
35°	1118.5	1132.0	1159.1	1187.5	1195.6
37.5°	1065.8	1083.4	1113.1	1141.5	1149.6
40°	1010.3	1032.0	1065.8	1095.5	1105.0
42.5°	957.6	980.6	1014.4	1046.8	1057.7
45°	902.1	923.8	964.3	1000.8	1009.0
47.5°	845.3	869.7	912.9	949.5	963.0
50°	788.5	814.2	860.2	898.1	906.2
52.5°	731.7	758.8	807.4	848.0	852.1
55°	672.2	701.9	753.3	792.6	800.7
57.5°	618.1	643.8	699.2	739.8	749.3
60°	558.6	587.0	646.5	684.4	696.5
62.5°	501.8	531.5	593.7	631.6	642.4
65°	442.3	476.1	536.9	581.6	592.4
67.5°	390.9	423.3	488.3	531.5	542.4
70°	331.4	367.9	436.9	481.5	492.3
72.5°	280.0	317.8	386.8	430.1	446.3
75°	224.5	267.8	336.8	382.8	393.6
77.5°	170.4	220.5	290.8	326.0	326.0
80°	121.7	174.5	239.4	255.6	258.3
82.5°	79.8	131.2	177.2	175.8	175.8
85°	46.0	85.2	105.5	102.8	102.8
87.5°	17.6	35.2	37.9	37.9	36.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)