

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: P311467

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP187-W2A-U-5000K**

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: P311467
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-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 4151.0 lumens
Efficiency: N/A
Efficacy: 120.0 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

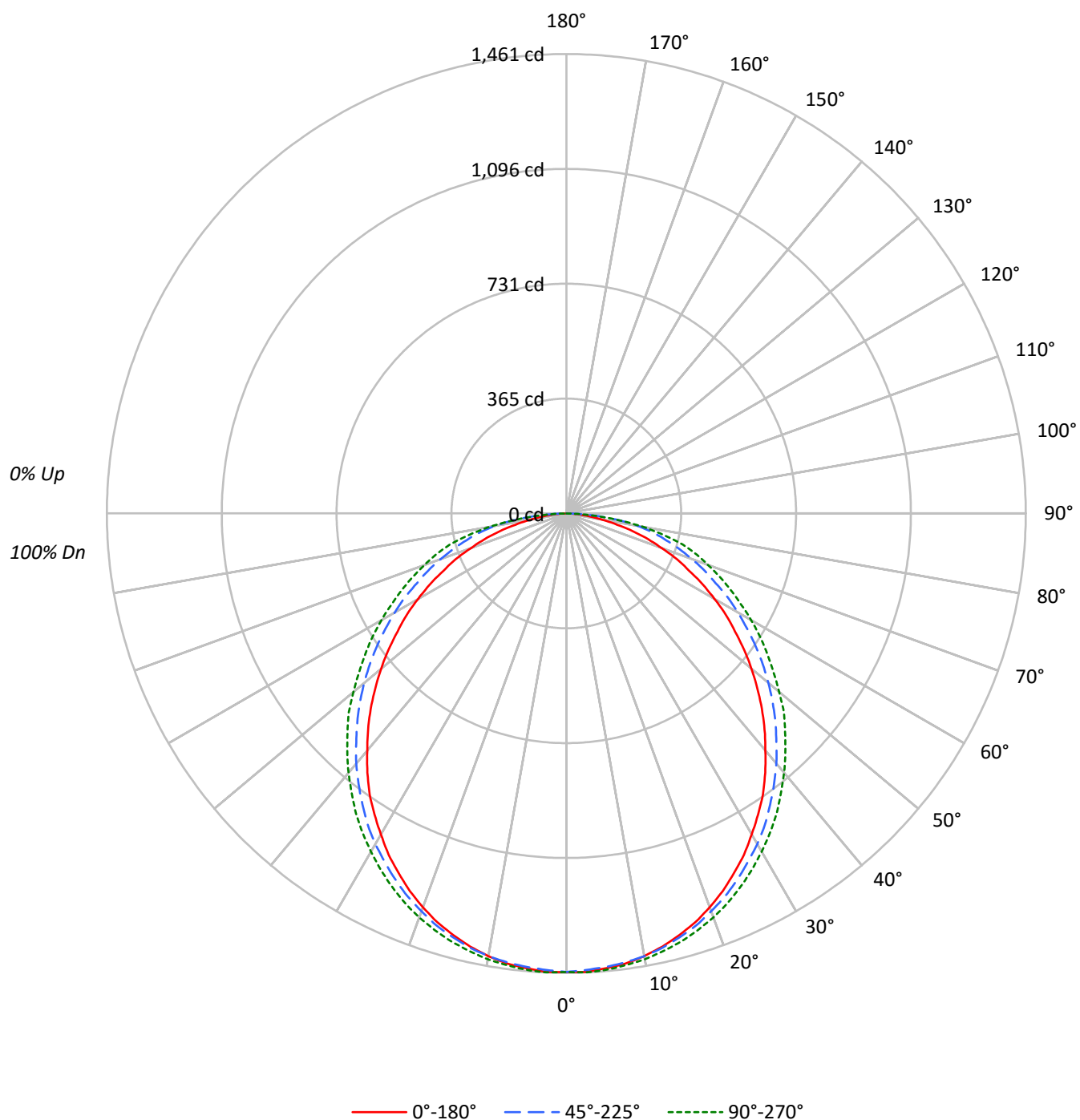
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1962	1962	1962
5°	1961	1955	1968
10°	1953	1953	1967
15°	1934	1943	1963
20°	1909	1928	1958
25°	1873	1908	1946
30°	1831	1887	1930
35°	1791	1856	1915
40°	1730	1825	1892
45°	1673	1789	1872
50°	1609	1755	1849
55°	1537	1723	1831
60°	1465	1696	1827
65°	1373	1666	1839
70°	1271	1675	1888
75°	1138	1707	1995
80°	920	1808	1951
85°	692	1587	1547



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.1	3.3
10°-20°	394.5	9.5
20°-30°	593.0	14.3
30°-40°	706.3	17.0
40°-50°	722.9	17.4
50°-60°	650.8	15.7
60°-70°	511.1	12.3
70°-80°	331.7	8.0
80°-90°	102.6	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°	1125.5	27.1
0°-40°	1831.8	44.1
0°-60°	3205.6	77.2
0°-90°	4151.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4151.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1458	1458	1458	1458	1458	
5°	1452	1454	1448	1456	1457	138
15°	1388	1392	1395	1407	1410	391
25°	1262	1272	1286	1307	1311	581
35°	1090	1104	1130	1158	1166	680
45°	879	900	940	976	984	678
55°	655	684	734	773	781	587
65°	431	464	523	567	578	429
75°	219	261	328	373	384	232
85°	45	83	103	100	100	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1458.3	1458.3	1458.3	1458.3	1458.3
2.5°	1459.6	1459.6	1453.0	1459.6	1460.9
5°	1451.7	1454.3	1447.7	1455.6	1457.0
7.5°	1443.8	1443.8	1439.8	1447.7	1449.0
10°	1429.3	1430.6	1429.3	1438.5	1439.8
12.5°	1410.8	1413.4	1414.8	1424.0	1425.3
15°	1388.4	1392.3	1395.0	1406.9	1409.5
17.5°	1363.3	1367.3	1373.9	1387.1	1389.7
20°	1333.0	1338.3	1346.2	1363.3	1367.3
22.5°	1300.1	1305.3	1318.5	1334.3	1340.9
25°	1261.8	1272.4	1285.5	1306.6	1310.6
27.5°	1223.6	1232.8	1249.9	1272.4	1277.6
30°	1178.7	1193.3	1214.3	1236.8	1242.0
32.5°	1135.2	1149.7	1174.8	1198.5	1205.1
35°	1090.4	1103.6	1130.0	1157.7	1165.6
37.5°	1039.0	1056.1	1085.1	1112.8	1120.7
40°	984.9	1006.0	1039.0	1068.0	1077.2
42.5°	933.5	955.9	988.9	1020.5	1031.1
45°	879.4	900.5	940.1	975.7	983.6
47.5°	824.1	847.8	890.0	925.6	938.8
50°	768.7	793.7	838.6	875.5	883.4
52.5°	713.3	739.7	787.2	826.7	830.7
55°	655.3	684.3	734.4	772.6	780.6
57.5°	602.6	627.6	681.7	721.2	730.5
60°	544.5	572.2	630.2	667.2	679.0
62.5°	489.2	518.2	578.8	615.7	626.3
65°	431.2	464.1	523.4	567.0	577.5
67.5°	381.0	412.7	476.0	518.2	528.7
70°	323.0	358.6	425.9	469.4	479.9
72.5°	272.9	309.9	377.1	419.3	435.1
75°	218.9	261.1	328.3	373.1	383.7
77.5°	166.1	214.9	283.5	317.8	317.8
80°	118.7	170.1	233.4	249.2	251.8
82.5°	77.8	127.9	172.7	171.4	171.4
85°	44.8	83.1	102.8	100.2	100.2
87.5°	17.1	34.3	36.9	36.9	35.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)