

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: P310880

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-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: P310880
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" 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: 4292.0 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

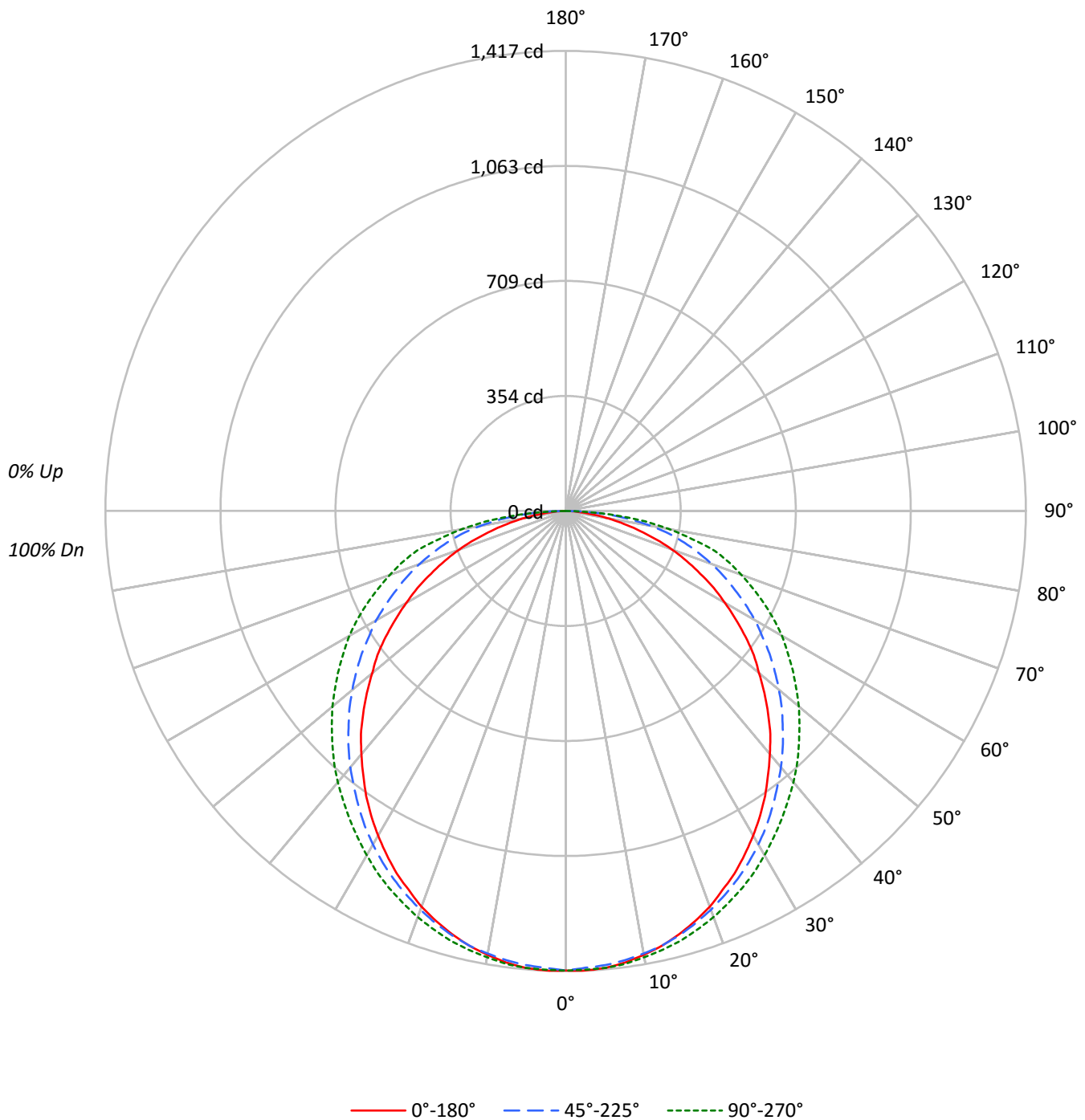
Input Watts (W): 38.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1905	1905	1905
5°	1908	1896	1908
10°	1897	1891	1907
15°	1880	1884	1908
20°	1858	1872	1906
25°	1829	1858	1905
30°	1794	1843	1903
35°	1759	1824	1904
40°	1718	1811	1916
45°	1677	1799	1932
50°	1627	1795	1961
55°	1587	1797	2001
60°	1525	1813	2069
65°	1455	1832	2145
70°	1378	1888	2263
75°	1229	1969	2472
80°	1048	2085	2527
85°	747	2067	2418



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.0	3.1
10°-20°	383.0	8.9
20°-30°	578.5	13.5
30°-40°	697.3	16.2
40°-50°	732.0	17.1
50°-60°	684.8	16.0
60°-70°	565.6	13.2
70°-80°	385.4	9.0
80°-90°	131.4	3.1
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°	1095.5	25.5
0°-40°	1792.8	41.8
0°-60°	3209.6	74.8
0°-90°	4292.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4292.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1416	1416	1416	1416	1416	
5°	1413	1411	1404	1413	1413	134
15°	1350	1351	1353	1367	1370	381
25°	1232	1238	1252	1276	1283	567
35°	1071	1082	1111	1148	1159	669
45°	882	900	946	997	1015	680
55°	676	704	766	829	853	604
65°	457	496	575	648	674	453
75°	236	290	379	450	476	252
85°	48	95	134	151	157	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1415.5	1415.5	1415.5	1415.5	1415.5
2.5°	1416.9	1415.5	1408.3	1415.5	1414.0
5°	1412.6	1411.2	1404.1	1412.6	1412.6
7.5°	1402.6	1402.6	1395.5	1405.5	1406.9
10°	1388.4	1388.4	1384.1	1395.5	1395.5
12.5°	1371.3	1371.3	1371.3	1382.7	1384.1
15°	1350.0	1351.4	1352.8	1367.0	1369.9
17.5°	1324.3	1327.2	1331.4	1348.5	1351.4
20°	1297.3	1300.1	1307.2	1327.2	1331.4
22.5°	1263.1	1270.2	1280.2	1303.0	1307.2
25°	1231.8	1237.5	1251.7	1275.9	1283.0
27.5°	1193.3	1201.9	1220.4	1246.0	1256.0
30°	1154.9	1163.4	1186.2	1216.1	1224.6
32.5°	1113.6	1126.4	1150.6	1181.9	1191.9
35°	1070.9	1082.2	1110.7	1147.8	1159.1
37.5°	1023.9	1039.5	1070.9	1110.7	1125.0
40°	978.3	995.4	1031.0	1073.7	1090.8
42.5°	932.7	949.8	989.7	1038.1	1055.2
45°	881.5	900.0	945.5	996.8	1015.3
47.5°	830.2	853.0	902.8	956.9	976.9
50°	777.5	803.1	857.3	914.2	937.0
52.5°	730.5	754.7	811.7	872.9	894.3
55°	676.4	703.5	766.1	828.8	853.0
57.5°	620.9	650.8	717.7	786.1	810.3
60°	566.8	599.5	673.6	741.9	769.0
62.5°	514.1	546.8	623.7	694.9	722.0
65°	457.1	495.6	575.3	647.9	673.6
67.5°	403.0	444.3	528.3	599.5	625.1
70°	350.3	390.2	479.9	549.7	575.3
72.5°	293.3	338.9	428.6	501.3	528.3
75°	236.4	290.5	378.8	450.0	475.6
77.5°	183.7	239.2	327.5	385.9	398.7
80°	135.3	192.2	269.1	310.4	326.1
82.5°	86.9	143.8	205.1	235.0	247.8
85°	48.4	95.4	133.9	150.9	156.6
87.5°	19.9	41.3	54.1	61.2	61.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)