

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: P310881

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-CP187-W2A-U-4500K**

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: P310881
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-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 4368.0 lumens
Efficiency: N/A
Efficacy: 111.7 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

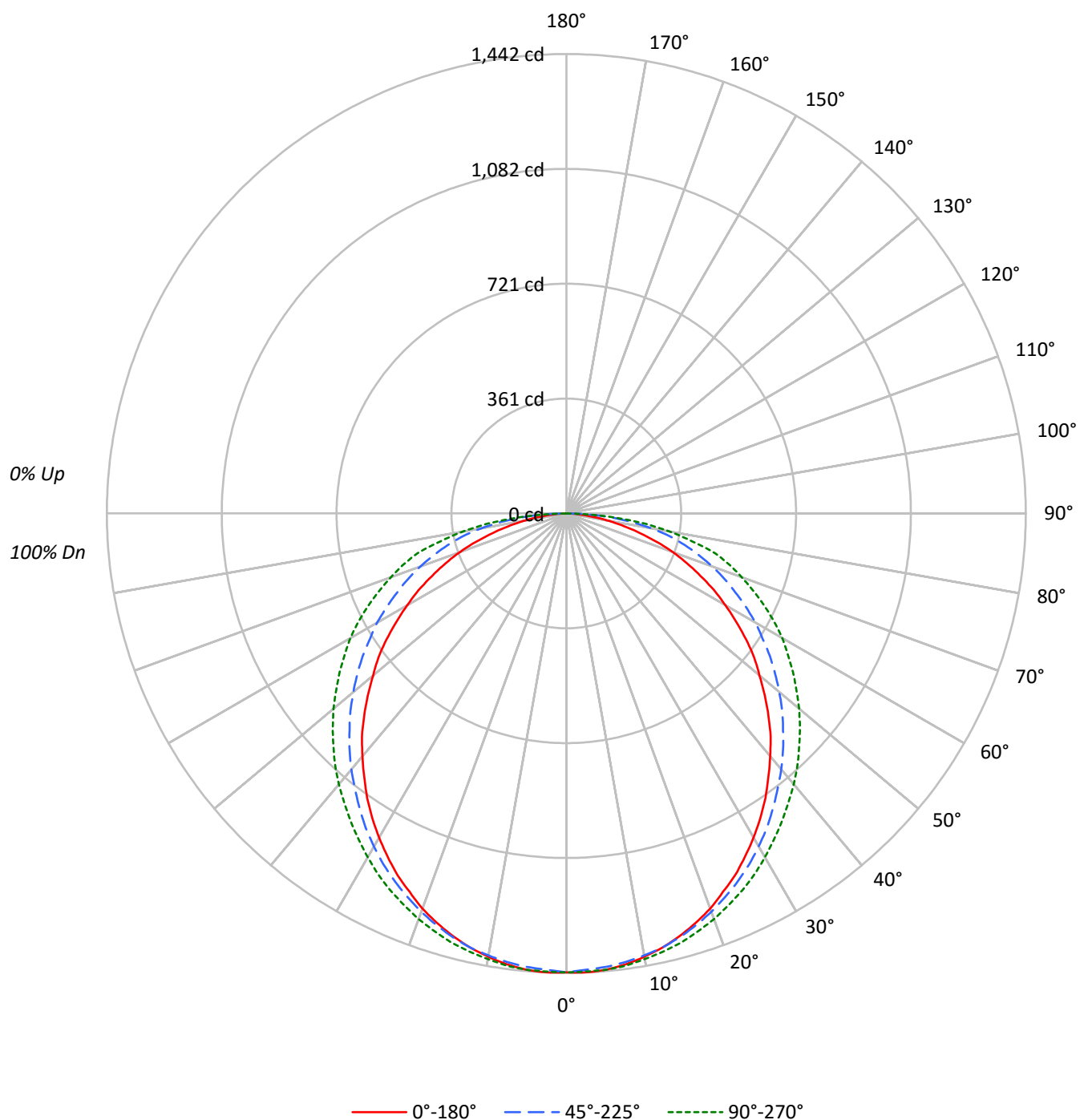
Input Watts (W): 39.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1938	1938	1938
5°	1942	1930	1942
10°	1931	1924	1940
15°	1914	1918	1942
20°	1890	1905	1940
25°	1861	1891	1939
30°	1826	1876	1936
35°	1790	1857	1938
40°	1749	1843	1950
45°	1707	1831	1966
50°	1656	1826	1996
55°	1615	1829	2036
60°	1552	1845	2106
65°	1481	1864	2182
70°	1402	1921	2303
75°	1251	2004	2516
80°	1067	2122	2572
85°	761	2103	2461



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.3	3.1
10°-20°	389.8	8.9
20°-30°	588.8	13.5
30°-40°	709.6	16.2
40°-50°	745.0	17.1
50°-60°	697.0	16.0
60°-70°	575.6	13.2
70°-80°	392.2	9.0
80°-90°	133.8	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°	1114.9	25.5
0°-40°	1824.5	41.8
0°-60°	3266.5	74.8
0°-90°	4368.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4368.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1438	1436	1429	1438	1438	136
15°	1374	1375	1377	1391	1394	387
25°	1254	1259	1274	1298	1306	577
35°	1090	1101	1130	1168	1180	681
45°	897	916	962	1014	1033	692
55°	688	716	780	843	868	614
65°	465	504	586	659	686	461
75°	241	296	386	458	484	257
85°	49	97	136	154	159	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1440.5	1440.5	1440.5	1440.5	1440.5
2.5°	1442.0	1440.5	1433.3	1440.5	1439.1
5°	1437.6	1436.2	1428.9	1437.6	1437.6
7.5°	1427.5	1427.5	1420.2	1430.4	1431.8
10°	1413.0	1413.0	1408.6	1420.2	1420.2
12.5°	1395.6	1395.6	1395.6	1407.2	1408.6
15°	1373.9	1375.3	1376.8	1391.3	1394.2
17.5°	1347.8	1350.7	1355.0	1372.4	1375.3
20°	1320.2	1323.1	1330.4	1350.7	1355.0
22.5°	1285.5	1292.7	1302.9	1326.0	1330.4
25°	1253.6	1259.4	1273.9	1298.5	1305.8
27.5°	1214.4	1223.1	1242.0	1268.1	1278.2
30°	1175.3	1184.0	1207.2	1237.6	1246.3
32.5°	1133.3	1146.3	1171.0	1202.9	1213.0
35°	1089.8	1101.4	1130.4	1168.1	1179.7
37.5°	1042.0	1057.9	1089.8	1130.4	1144.9
40°	995.6	1013.0	1049.2	1092.7	1110.1
42.5°	949.2	966.6	1007.2	1056.5	1073.9
45°	897.1	915.9	962.3	1014.5	1033.3
47.5°	844.9	868.1	918.8	973.9	994.2
50°	791.3	817.4	872.4	930.4	953.6
52.5°	743.5	768.1	826.1	888.4	910.1
55°	688.4	715.9	779.7	843.4	868.1
57.5°	631.9	662.3	730.4	800.0	824.6
60°	576.8	610.1	685.5	755.0	782.6
62.5°	523.2	556.5	634.8	707.2	734.8
65°	465.2	504.3	585.5	659.4	685.5
67.5°	410.1	452.2	537.7	610.1	636.2
70°	356.5	397.1	488.4	559.4	585.5
72.5°	298.5	344.9	436.2	510.1	537.7
75°	240.6	295.6	385.5	458.0	484.0
77.5°	186.9	243.5	333.3	392.7	405.8
80°	137.7	195.6	273.9	315.9	331.9
82.5°	88.4	146.4	208.7	239.1	252.2
85°	49.3	97.1	136.2	153.6	159.4
87.5°	20.3	42.0	55.1	62.3	62.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)