

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: P310890

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-CP250-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: P310890
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-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" 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: 4332.0 lumens
Efficiency: N/A
Efficacy: 110.8 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

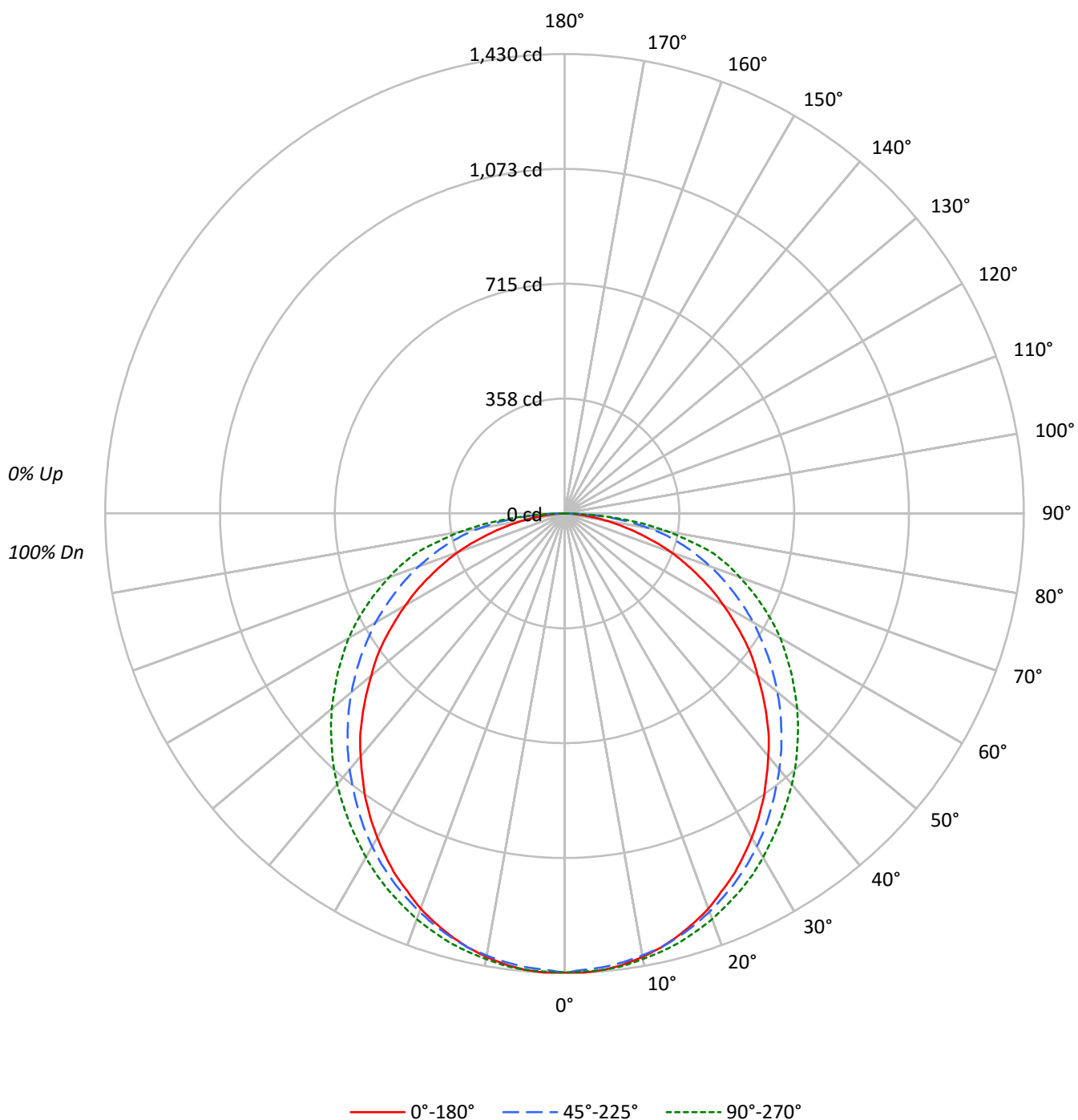
Input Watts (W): 39.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1922	1922	1922
5°	1926	1914	1926
10°	1915	1909	1924
15°	1898	1902	1926
20°	1875	1889	1924
25°	1846	1876	1923
30°	1811	1860	1920
35°	1775	1841	1922
40°	1734	1828	1934
45°	1693	1816	1950
50°	1643	1811	1980
55°	1601	1814	2019
60°	1539	1829	2088
65°	1469	1849	2164
70°	1391	1906	2284
75°	1240	1987	2496
80°	1058	2104	2550
85°	755	2086	2441



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.2	3.1
10°-20°	386.6	8.9
20°-30°	583.9	13.5
30°-40°	703.8	16.2
40°-50°	738.8	17.1
50°-60°	691.2	16.0
60°-70°	570.8	13.2
70°-80°	389.0	9.0
80°-90°	132.7	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°	1105.7	25.5
0°-40°	1809.5	41.8
0°-60°	3239.6	74.8
0°-90°	4332.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4332.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1429	1429	1429	1429	1429	
5°	1426	1424	1417	1426	1426	135
15°	1362	1364	1365	1380	1383	384
25°	1243	1249	1263	1288	1295	572
35°	1081	1092	1121	1158	1170	675
45°	890	908	954	1006	1025	686
55°	683	710	773	836	861	609
65°	461	500	581	654	680	458
75°	239	293	382	454	480	254
85°	49	96	135	152	158	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1428.7	1428.7	1428.7	1428.7	1428.7
2.5°	1430.1	1428.7	1421.5	1428.7	1427.2
5°	1425.8	1424.3	1417.2	1425.8	1425.8
7.5°	1415.7	1415.7	1408.5	1418.6	1420.0
10°	1401.3	1401.3	1397.0	1408.5	1408.5
12.5°	1384.1	1384.1	1384.1	1395.6	1397.0
15°	1362.5	1364.0	1365.4	1379.8	1382.7
17.5°	1336.7	1339.5	1343.9	1361.1	1364.0
20°	1309.4	1312.2	1319.4	1339.5	1343.9
22.5°	1274.9	1282.1	1292.1	1315.1	1319.4
25°	1243.2	1249.0	1263.4	1287.8	1295.0
27.5°	1204.4	1213.1	1231.7	1257.6	1267.7
30°	1165.6	1174.3	1197.3	1227.4	1236.1
32.5°	1124.0	1136.9	1161.3	1192.9	1203.0
35°	1080.8	1092.3	1121.1	1158.4	1169.9
37.5°	1033.4	1049.2	1080.8	1121.1	1135.5
40°	987.4	1004.7	1040.6	1083.7	1101.0
42.5°	941.4	958.7	998.9	1047.8	1065.0
45°	889.7	908.4	954.4	1006.1	1024.8
47.5°	837.9	860.9	911.2	965.9	986.0
50°	784.8	810.6	865.2	922.7	945.7
52.5°	737.3	761.8	819.2	881.1	902.6
55°	682.7	710.0	773.3	836.5	860.9
57.5°	626.7	656.8	724.4	793.4	817.8
60°	572.0	605.1	679.8	748.8	776.1
62.5°	518.9	551.9	629.5	701.4	728.7
65°	461.4	500.2	580.7	654.0	679.8
67.5°	406.8	448.4	533.2	605.1	631.0
70°	353.6	393.8	484.4	554.8	580.7
72.5°	296.1	342.1	432.6	505.9	533.2
75°	238.6	293.2	382.3	454.2	480.1
77.5°	185.4	241.5	330.6	389.5	402.4
80°	136.5	194.0	271.6	313.3	329.1
82.5°	87.7	145.2	207.0	237.2	250.1
85°	48.9	96.3	135.1	152.4	158.1
87.5°	20.1	41.7	54.6	61.8	61.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)