

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: P314013

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-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: P314013
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-L83050-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: 4520.0 lumens
Efficiency: N/A
Efficacy: 112.2 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

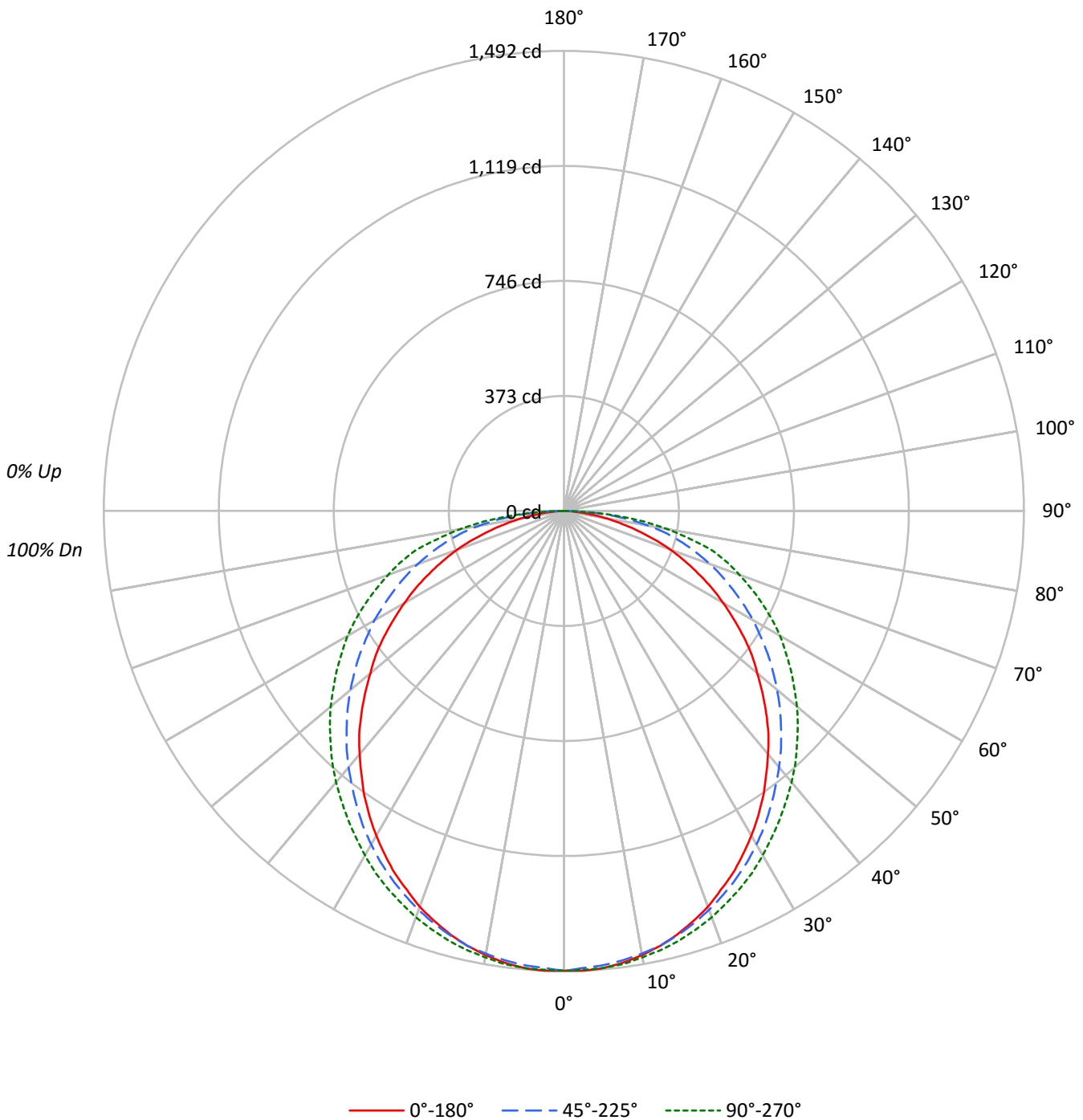
Input Watts (W): 40.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				10	0
RW	70	50	30	10	70	50	30	10	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	102	102	102	100
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2006	2006	2006
5°	2009	1997	2009
10°	1998	1992	2008
15°	1980	1985	2010
20°	1956	1971	2008
25°	1926	1957	2006
30°	1890	1941	2004
35°	1852	1921	2005
40°	1810	1907	2018
45°	1766	1895	2035
50°	1714	1890	2066
55°	1671	1893	2107
60°	1606	1909	2179
65°	1533	1929	2258
70°	1451	1988	2384
75°	1294	2074	2604
80°	1104	2196	2661
85°	787	2177	2547



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.1	3.1
10°-20°	403.4	8.9
20°-30°	609.3	13.5
30°-40°	734.3	16.2
40°-50°	770.9	17.1
50°-60°	721.2	16.0
60°-70°	595.6	13.2
70°-80°	405.8	9.0
80°-90°	138.4	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°	1153.7	25.5
0°-40°	1888.0	41.8
0°-60°	3380.1	74.8
0°-90°	4520.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4520.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1491	1491	1491	1491	1491	
5°	1488	1486	1479	1488	1488	141
15°	1422	1423	1425	1440	1443	401
25°	1297	1303	1318	1344	1351	597
35°	1128	1140	1170	1209	1221	705
45°	928	948	996	1050	1069	716
55°	712	741	807	873	898	636
65°	481	522	606	682	709	478
75°	249	306	399	474	501	265
85°	51	100	141	159	165	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1490.7	1490.7	1490.7	1490.7	1490.7
2.5°	1492.2	1490.7	1483.2	1490.7	1489.2
5°	1487.7	1486.2	1478.7	1487.7	1487.7
7.5°	1477.2	1477.2	1469.7	1480.2	1481.7
10°	1462.2	1462.2	1457.7	1469.7	1469.7
12.5°	1444.2	1444.2	1444.2	1456.2	1457.7
15°	1421.7	1423.2	1424.7	1439.7	1442.7
17.5°	1394.7	1397.7	1402.2	1420.2	1423.2
20°	1366.2	1369.2	1376.7	1397.7	1402.2
22.5°	1330.2	1337.7	1348.2	1372.2	1376.7
25°	1297.2	1303.2	1318.2	1343.7	1351.2
27.5°	1256.7	1265.7	1285.2	1312.2	1322.7
30°	1216.2	1225.2	1249.2	1280.7	1289.7
32.5°	1172.7	1186.2	1211.7	1244.7	1255.2
35°	1127.7	1139.7	1169.7	1208.7	1220.7
37.5°	1078.3	1094.7	1127.7	1169.7	1184.7
40°	1030.3	1048.3	1085.7	1130.7	1148.7
42.5°	982.3	1000.3	1042.3	1093.2	1111.2
45°	928.3	947.8	995.8	1049.8	1069.3
47.5°	874.3	898.3	950.8	1007.8	1028.8
50°	818.8	845.8	902.8	962.8	986.8
52.5°	769.3	794.8	854.8	919.3	941.8
55°	712.3	740.8	806.8	872.8	898.3
57.5°	653.8	685.3	755.8	827.8	853.3
60°	596.9	631.4	709.3	781.3	809.8
62.5°	541.4	575.9	656.8	731.8	760.3
65°	481.4	521.9	605.9	682.3	709.3
67.5°	424.4	467.9	556.4	631.4	658.3
70°	368.9	410.9	505.4	578.9	605.9
72.5°	308.9	356.9	451.4	527.9	556.4
75°	248.9	305.9	398.9	473.9	500.9
77.5°	193.5	251.9	344.9	406.4	419.9
80°	142.5	202.5	283.4	326.9	343.4
82.5°	91.5	151.5	216.0	247.4	260.9
85°	51.0	100.5	141.0	159.0	165.0
87.5°	21.0	43.5	57.0	64.5	64.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)