

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: P314011

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-CP250-W2A-U-3500K**

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: P314011
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-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 4265.0 lumens
Efficiency: N/A
Efficacy: 111.1 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

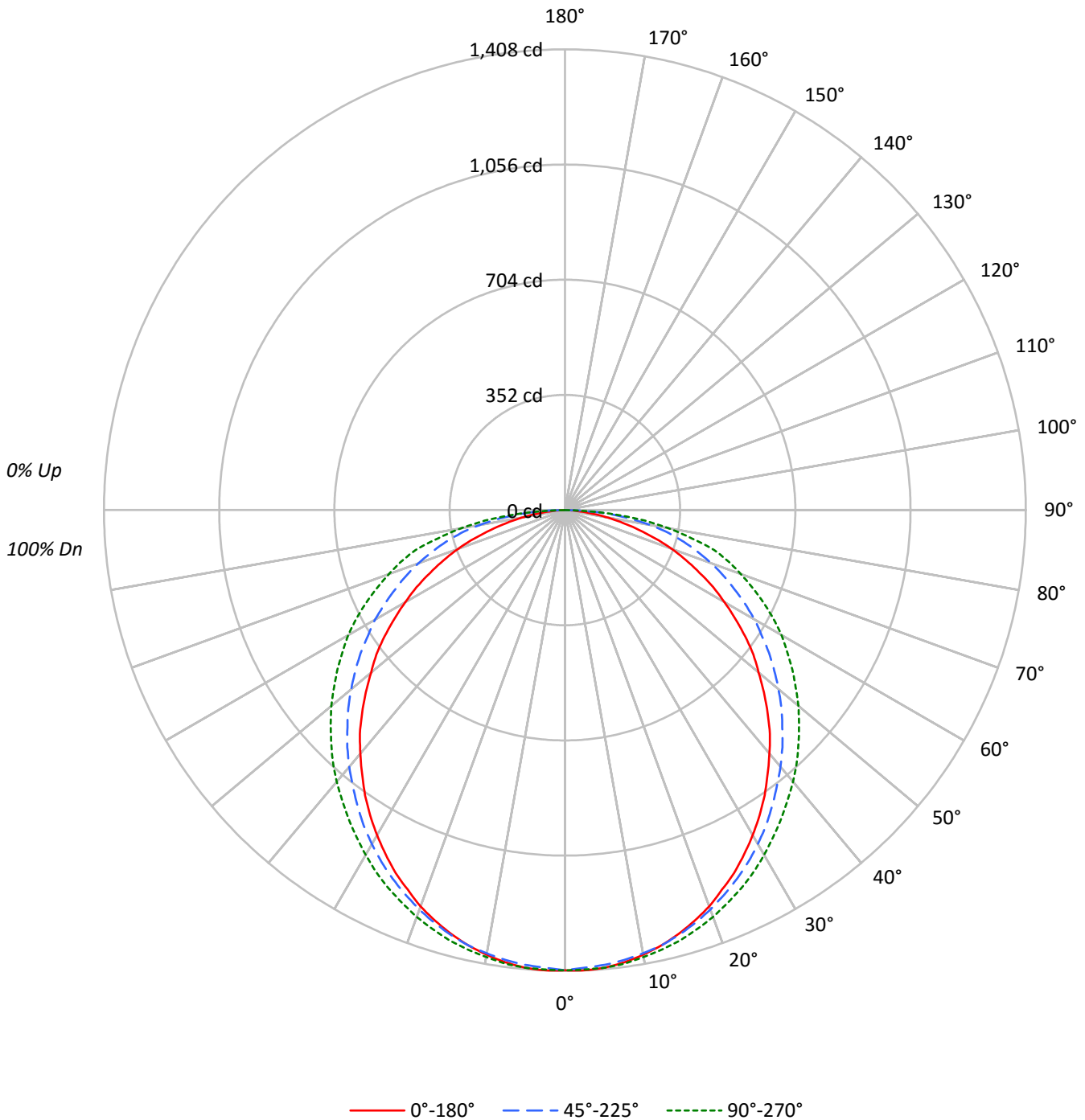
Input Watts (W): 38.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P314011

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-CP250-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P314011

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-CP250-W2A-U-3500K

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°	1893	1893	1893
5°	1896	1884	1896
10°	1885	1879	1895
15°	1869	1873	1896
20°	1846	1860	1894
25°	1817	1847	1893
30°	1783	1831	1891
35°	1748	1813	1892
40°	1707	1799	1904
45°	1667	1788	1920
50°	1617	1783	1949
55°	1577	1786	1988
60°	1516	1801	2056
65°	1446	1820	2131
70°	1369	1876	2249
75°	1221	1957	2457
80°	1041	2072	2510
85°	743	2053	2404



TEST NUMBER: P314011

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-CP250-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.1	3.1
10°-20°	380.6	8.9
20°-30°	574.9	13.5
30°-40°	692.9	16.2
40°-50°	727.4	17.1
50°-60°	680.5	16.0
60°-70°	562.0	13.2
70°-80°	383.0	9.0
80°-90°	130.6	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°	1088.6	25.5
0°-40°	1781.5	41.8
0°-60°	3189.4	74.8
0°-90°	4265.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4265.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1407	1407	1407	1407	1407	
5°	1404	1402	1395	1404	1404	133
15°	1342	1343	1344	1358	1361	378
25°	1224	1230	1244	1268	1275	563
35°	1064	1075	1104	1140	1152	665
45°	876	894	940	990	1009	676
55°	672	699	761	824	848	600
65°	454	492	572	644	669	451
75°	235	289	376	447	473	250
85°	48	95	133	150	156	60
90°	0	0	0	0	0	



TEST NUMBER: P314011

CATALOG NUMBER: 24FCZ2-50HE-UNV-L83050-CP250-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1406.6	1406.6	1406.6	1406.6	1406.6
2.5°	1408.0	1406.6	1399.5	1406.6	1405.1
5°	1403.7	1402.3	1395.2	1403.7	1403.7
7.5°	1393.8	1393.8	1386.7	1396.7	1398.1
10°	1379.7	1379.7	1375.4	1386.7	1386.7
12.5°	1362.7	1362.7	1362.7	1374.0	1375.4
15°	1341.5	1342.9	1344.3	1358.4	1361.3
17.5°	1316.0	1318.8	1323.1	1340.1	1342.9
20°	1289.1	1291.9	1299.0	1318.8	1323.1
22.5°	1255.1	1262.2	1272.1	1294.8	1299.0
25°	1224.0	1229.7	1243.8	1267.9	1275.0
27.5°	1185.8	1194.3	1212.7	1238.2	1248.1
30°	1147.6	1156.1	1178.7	1208.5	1216.9
32.5°	1106.6	1119.3	1143.4	1174.5	1184.4
35°	1064.1	1075.4	1103.7	1140.5	1151.9
37.5°	1017.4	1033.0	1064.1	1103.7	1117.9
40°	972.1	989.1	1024.5	1066.9	1083.9
42.5°	926.9	943.8	983.5	1031.6	1048.6
45°	875.9	894.3	939.6	990.5	1008.9
47.5°	825.0	847.6	897.1	950.9	970.7
50°	772.6	798.1	851.9	908.5	931.1
52.5°	725.9	750.0	806.6	867.4	888.7
55°	672.1	699.0	761.3	823.6	847.6
57.5°	617.0	646.7	713.2	781.1	805.2
60°	563.2	595.7	669.3	737.2	764.1
62.5°	510.8	543.4	619.8	690.5	717.4
65°	454.2	492.4	571.7	643.8	669.3
67.5°	400.5	441.5	525.0	595.7	621.2
70°	348.1	387.7	476.9	546.2	571.7
72.5°	291.5	336.8	425.9	498.1	525.0
75°	234.9	288.7	376.4	447.2	472.6
77.5°	182.5	237.7	325.5	383.5	396.2
80°	134.4	191.0	267.4	308.5	324.0
82.5°	86.3	142.9	203.8	233.5	246.2
85°	48.1	94.8	133.0	150.0	155.7
87.5°	19.8	41.0	53.8	60.8	60.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)