

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: P314010

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-CP250-W2A-U-3000K**

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: P314010
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-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3000K 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: 4030.0 lumens
Efficiency: N/A
Efficacy: 105.2 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

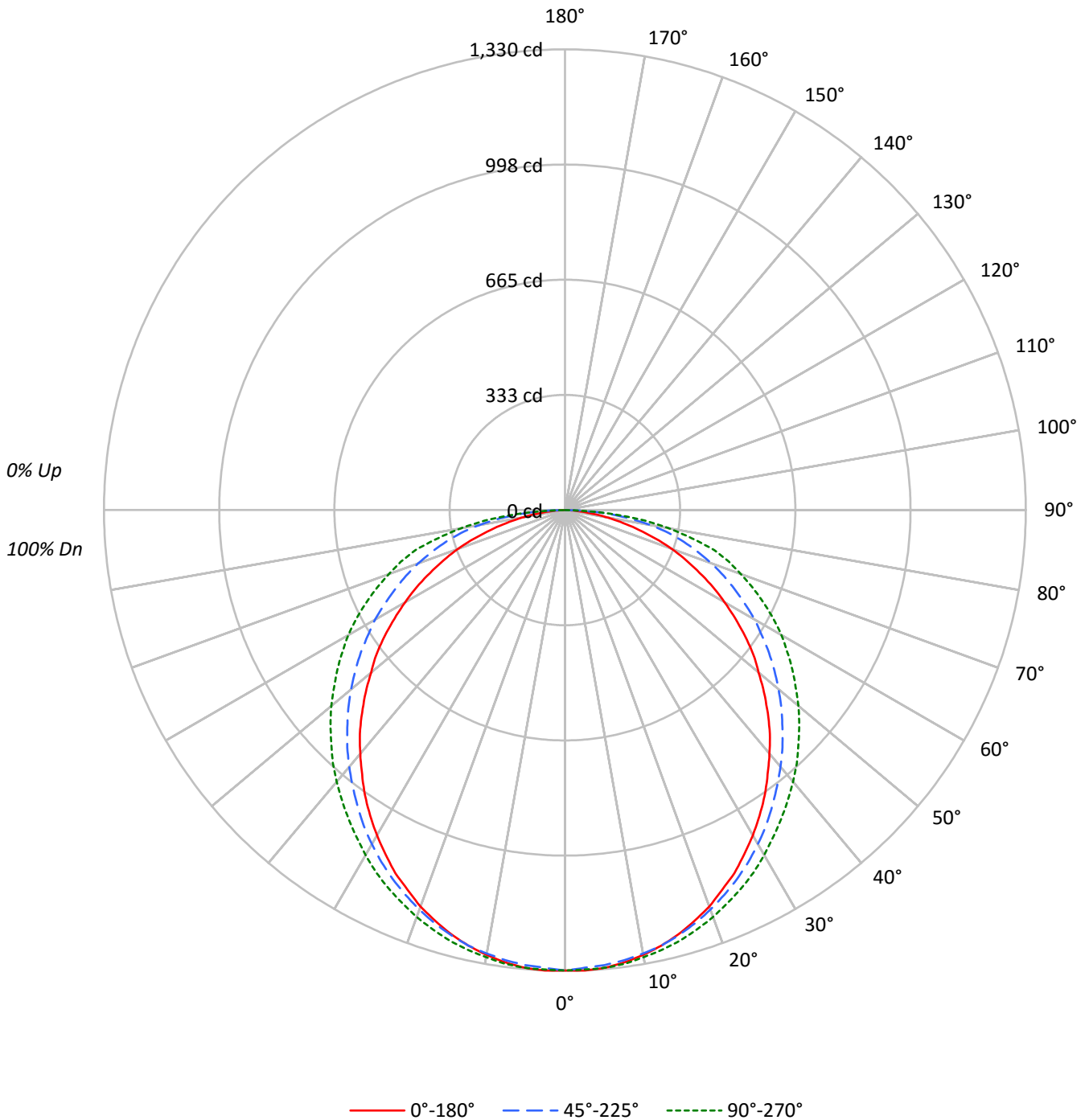
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1788	1788	1788
5°	1791	1781	1791
10°	1781	1776	1790
15°	1766	1769	1792
20°	1744	1757	1790
25°	1717	1745	1788
30°	1685	1730	1787
35°	1652	1713	1788
40°	1613	1700	1799
45°	1575	1689	1814
50°	1528	1685	1842
55°	1490	1687	1879
60°	1432	1702	1943
65°	1366	1720	2013
70°	1294	1773	2125
75°	1154	1849	2322
80°	984	1958	2373
85°	702	1941	2271



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.8	3.1
10°-20°	359.7	8.9
20°-30°	543.2	13.5
30°-40°	654.7	16.2
40°-50°	687.3	17.1
50°-60°	643.0	16.0
60°-70°	531.0	13.2
70°-80°	361.9	9.0
80°-90°	123.4	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°	1028.7	25.5
0°-40°	1683.4	41.8
0°-60°	3013.7	74.8
0°-90°	4030.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4030.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1326	1325	1318	1326	1326	126
15°	1268	1269	1270	1284	1286	357
25°	1157	1162	1175	1198	1205	532
35°	1006	1016	1043	1078	1088	628
45°	828	845	888	936	953	638
55°	635	660	719	778	801	567
65°	429	465	540	608	632	426
75°	222	273	356	422	447	237
85°	46	90	126	142	147	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1329.1	1329.1	1329.1	1329.1	1329.1
2.5°	1330.4	1329.1	1322.4	1329.1	1327.7
5°	1326.4	1325.0	1318.4	1326.4	1326.4
7.5°	1317.0	1317.0	1310.3	1319.7	1321.0
10°	1303.7	1303.7	1299.6	1310.3	1310.3
12.5°	1287.6	1287.6	1287.6	1298.3	1299.6
15°	1267.6	1268.9	1270.2	1283.6	1286.3
17.5°	1243.5	1246.2	1250.2	1266.2	1268.9
20°	1218.1	1220.8	1227.4	1246.2	1250.2
22.5°	1186.0	1192.7	1202.0	1223.4	1227.4
25°	1156.6	1161.9	1175.3	1198.0	1204.7
27.5°	1120.5	1128.5	1145.9	1169.9	1179.3
30°	1084.4	1092.4	1113.8	1141.9	1149.9
32.5°	1045.6	1057.6	1080.4	1109.8	1119.1
35°	1005.5	1016.2	1042.9	1077.7	1088.4
37.5°	961.4	976.1	1005.5	1042.9	1056.3
40°	918.6	934.6	968.0	1008.2	1024.2
42.5°	875.8	891.8	929.3	974.7	990.8
45°	827.7	845.0	887.8	936.0	953.3
47.5°	779.5	800.9	847.7	898.5	917.2
50°	730.0	754.1	804.9	858.4	879.8
52.5°	685.9	708.7	762.1	819.6	839.7
55°	635.1	660.5	719.3	778.2	800.9
57.5°	583.0	611.0	673.9	738.1	760.8
60°	532.2	562.9	632.4	696.6	722.0
62.5°	482.7	513.4	585.6	652.5	677.9
65°	429.2	465.3	540.2	608.4	632.4
67.5°	378.4	417.2	496.1	562.9	587.0
70°	328.9	366.4	450.6	516.1	540.2
72.5°	275.4	318.2	402.5	470.7	496.1
75°	222.0	272.8	355.7	422.5	446.6
77.5°	172.5	224.6	307.5	362.3	374.4
80°	127.0	180.5	252.7	291.5	306.2
82.5°	81.6	135.0	192.5	220.6	232.7
85°	45.5	89.6	125.7	141.7	147.1
87.5°	18.7	38.8	50.8	57.5	57.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)