

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: P313947

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CA125-W2A-U-4000K**

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: P313947
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: 24FCZ2-45HE-UNV-L83050-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 4000K 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: 4290.0 lumens
Efficiency: N/A
Efficacy: 124.0 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

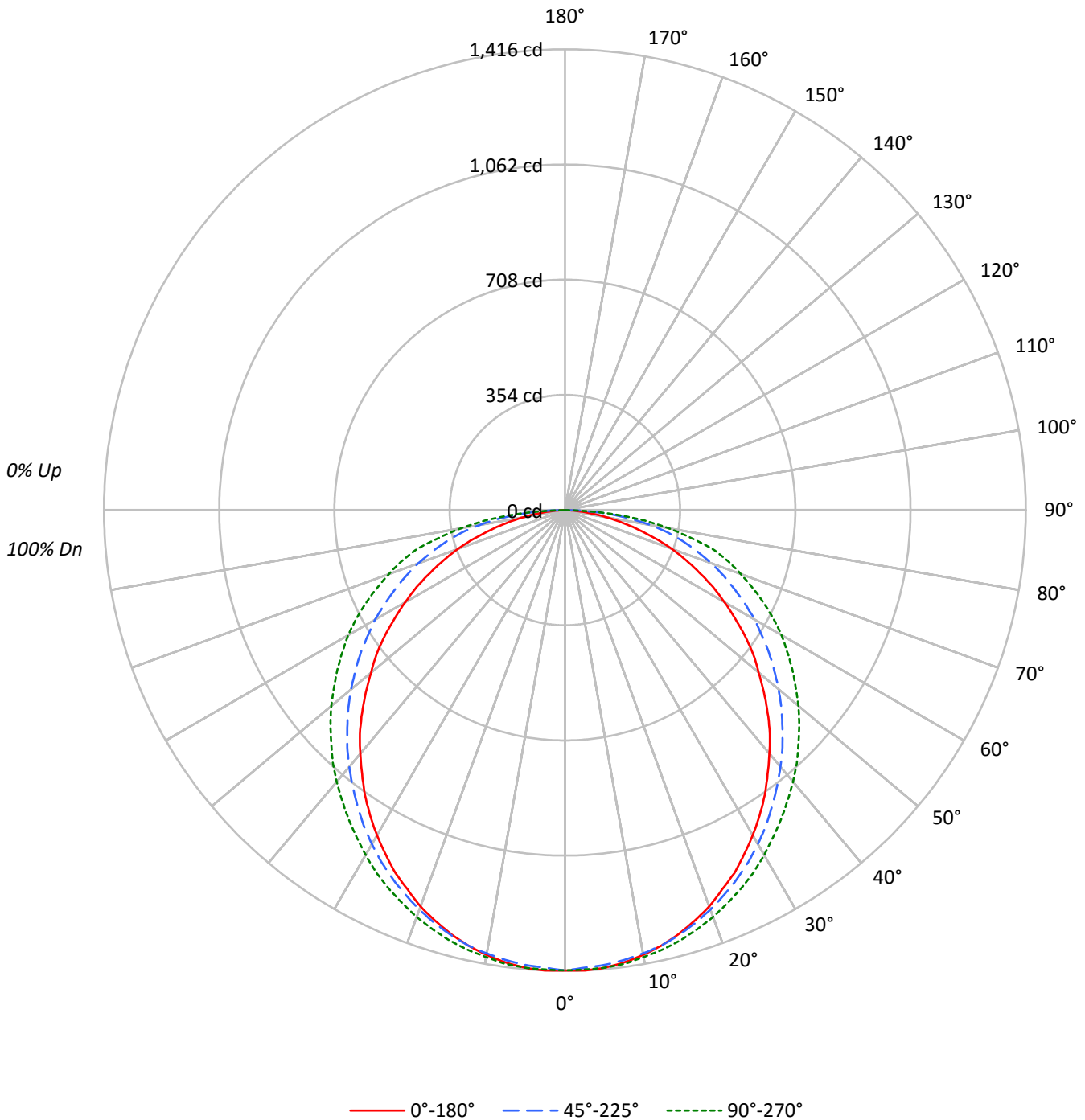
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1904	1904	1904
5°	1907	1895	1907
10°	1896	1890	1906
15°	1880	1884	1907
20°	1857	1871	1905
25°	1828	1857	1904
30°	1793	1842	1902
35°	1758	1824	1903
40°	1717	1810	1915
45°	1677	1798	1931
50°	1627	1794	1961
55°	1586	1796	2000
60°	1524	1812	2068
65°	1455	1831	2143
70°	1377	1887	2262
75°	1228	1968	2471
80°	1048	2084	2525
85°	747	2066	2418



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.9	3.1
10°-20°	382.9	8.9
20°-30°	578.3	13.5
30°-40°	696.9	16.2
40°-50°	731.7	17.1
50°-60°	684.5	16.0
60°-70°	565.3	13.2
70°-80°	385.2	9.0
80°-90°	131.4	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°	1095.0	25.5
0°-40°	1792.0	41.8
0°-60°	3208.2	74.8
0°-90°	4290.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4290.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1415	1415	1415	1415	1415	
5°	1412	1410	1403	1412	1412	134
15°	1349	1351	1352	1366	1369	380
25°	1231	1237	1251	1275	1282	566
35°	1070	1082	1110	1147	1159	669
45°	881	900	945	996	1015	679
55°	676	703	766	828	853	603
65°	457	495	575	648	673	453
75°	236	290	379	450	475	252
85°	48	95	134	151	157	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1414.8	1414.8	1414.8	1414.8	1414.8
2.5°	1416.2	1414.8	1407.7	1414.8	1413.4
5°	1412.0	1410.5	1403.4	1412.0	1412.0
7.5°	1402.0	1402.0	1394.9	1404.8	1406.3
10°	1387.8	1387.8	1383.5	1394.9	1394.9
12.5°	1370.7	1370.7	1370.7	1382.1	1383.5
15°	1349.3	1350.8	1352.2	1366.4	1369.3
17.5°	1323.7	1326.6	1330.8	1347.9	1350.8
20°	1296.7	1299.5	1306.6	1326.6	1330.8
22.5°	1262.5	1269.6	1279.6	1302.4	1306.6
25°	1231.2	1236.9	1251.1	1275.3	1282.4
27.5°	1192.8	1201.3	1219.8	1245.4	1255.4
30°	1154.3	1162.9	1185.6	1215.5	1224.1
32.5°	1113.1	1125.9	1150.1	1181.4	1191.3
35°	1070.4	1081.7	1110.2	1147.2	1158.6
37.5°	1023.4	1039.0	1070.4	1110.2	1124.4
40°	977.8	994.9	1030.5	1073.2	1090.3
42.5°	932.3	949.4	989.2	1037.6	1054.7
45°	881.1	899.6	945.1	996.3	1014.8
47.5°	829.8	852.6	902.4	956.5	976.4
50°	777.1	802.8	856.9	913.8	936.6
52.5°	730.2	754.4	811.3	872.5	893.9
55°	676.1	703.1	765.8	828.4	852.6
57.5°	620.6	650.5	717.4	785.7	809.9
60°	566.5	599.2	673.2	741.6	768.6
62.5°	513.8	546.6	623.4	694.6	721.6
65°	456.9	495.3	575.0	647.6	673.2
67.5°	402.8	444.1	528.1	599.2	624.8
70°	350.1	390.0	479.7	549.4	575.0
72.5°	293.2	338.8	428.4	501.0	528.1
75°	236.3	290.4	378.6	449.8	475.4
77.5°	183.6	239.1	327.4	385.7	398.5
80°	135.2	192.2	269.0	310.3	325.9
82.5°	86.8	143.8	205.0	234.9	247.7
85°	48.4	95.4	133.8	150.9	156.6
87.5°	19.9	41.3	54.1	61.2	61.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)