

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: P313944

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CA08-W2A-U-5000K**

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: P313944
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-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K 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: 4347.0 lumens
Efficiency: N/A
Efficacy: 122.5 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

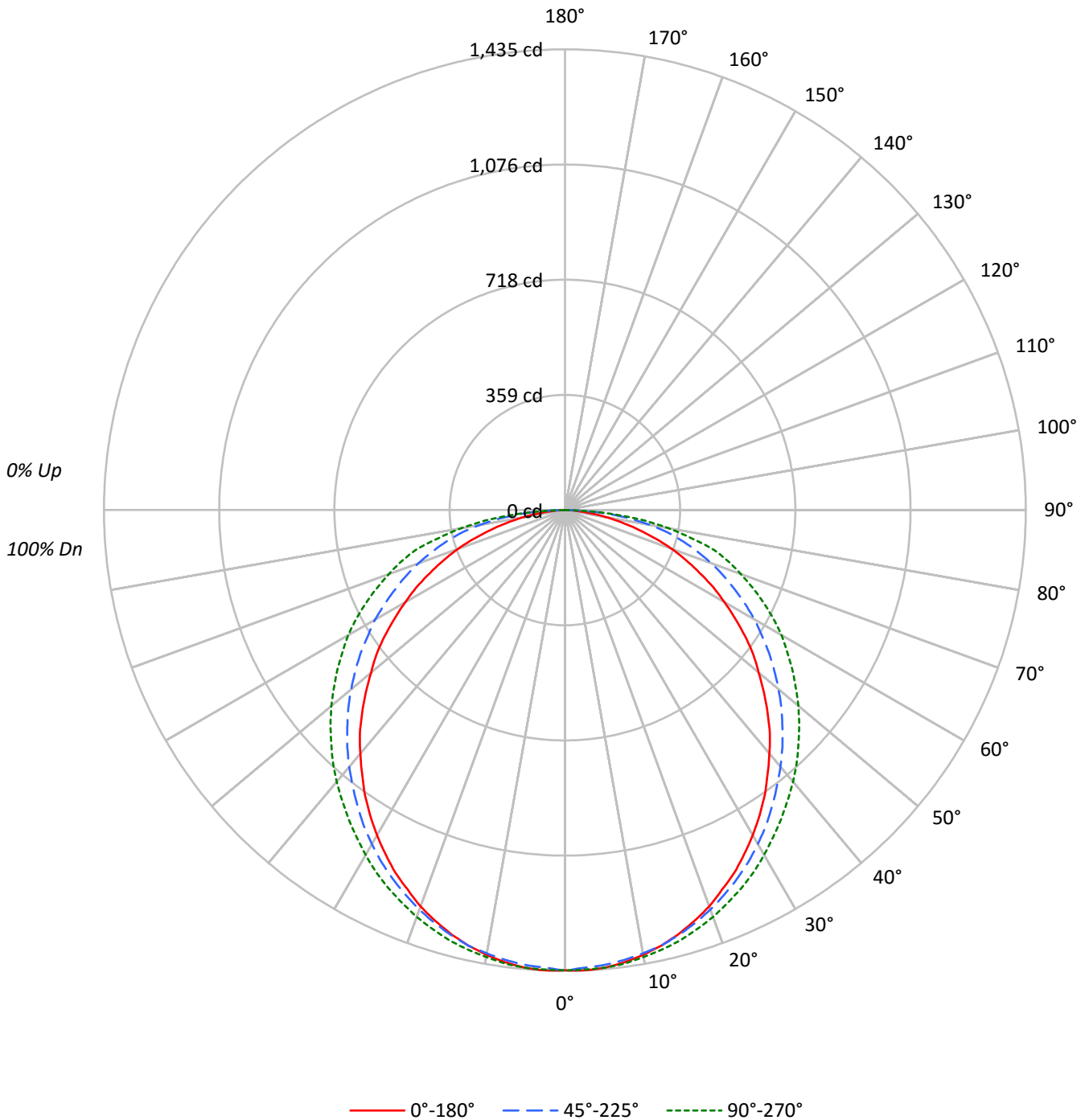
Input Watts (W): 35.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1929	1929	1929
5°	1932	1921	1932
10°	1921	1915	1931
15°	1905	1908	1933
20°	1881	1896	1931
25°	1852	1882	1929
30°	1817	1867	1927
35°	1781	1848	1928
40°	1740	1834	1940
45°	1699	1822	1957
50°	1648	1817	1986
55°	1607	1820	2027
60°	1545	1836	2096
65°	1474	1855	2172
70°	1396	1912	2292
75°	1245	1994	2504
80°	1062	2112	2559
85°	756	2093	2448



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.7	3.1
10°-20°	387.9	8.9
20°-30°	586.0	13.5
30°-40°	706.2	16.2
40°-50°	741.4	17.1
50°-60°	693.6	16.0
60°-70°	572.8	13.2
70°-80°	390.3	9.0
80°-90°	133.1	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°	1109.6	25.5
0°-40°	1815.8	41.8
0°-60°	3250.8	74.8
0°-90°	4347.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4347.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1434	1434	1434	1434	1434	
5°	1431	1429	1422	1431	1431	136
15°	1367	1369	1370	1385	1388	385
25°	1248	1253	1268	1292	1300	574
35°	1085	1096	1125	1162	1174	678
45°	893	912	958	1010	1028	689
55°	685	712	776	839	864	611
65°	463	502	583	656	682	459
75°	239	294	384	456	482	255
85°	49	97	136	153	159	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1433.6	1433.6	1433.6	1433.6	1433.6
2.5°	1435.0	1433.6	1426.4	1433.6	1432.2
5°	1430.7	1429.3	1422.1	1430.7	1430.7
7.5°	1420.6	1420.6	1413.4	1423.5	1424.9
10°	1406.2	1406.2	1401.9	1413.4	1413.4
12.5°	1388.9	1388.9	1388.9	1400.4	1401.9
15°	1367.3	1368.7	1370.1	1384.6	1387.5
17.5°	1341.3	1344.2	1348.5	1365.8	1368.7
20°	1313.9	1316.8	1324.0	1344.2	1348.5
22.5°	1279.3	1286.5	1296.6	1319.7	1324.0
25°	1247.6	1253.3	1267.7	1292.3	1299.5
27.5°	1208.6	1217.3	1236.0	1262.0	1272.1
30°	1169.7	1178.3	1201.4	1231.7	1240.3
32.5°	1127.8	1140.8	1165.3	1197.1	1207.2
35°	1084.6	1096.1	1125.0	1162.5	1174.0
37.5°	1037.0	1052.8	1084.6	1125.0	1139.4
40°	990.8	1008.1	1044.2	1087.5	1104.8
42.5°	944.7	962.0	1002.4	1051.4	1068.7
45°	892.8	911.5	957.7	1009.6	1028.3
47.5°	840.8	863.9	914.4	969.2	989.4
50°	787.5	813.4	868.2	925.9	949.0
52.5°	739.9	764.4	822.1	884.1	905.7
55°	685.1	712.5	775.9	839.4	863.9
57.5°	628.8	659.1	726.9	796.1	820.6
60°	574.0	607.2	682.2	751.4	778.8
62.5°	520.7	553.8	631.7	703.8	731.2
65°	463.0	501.9	582.7	656.2	682.2
67.5°	408.2	450.0	535.1	607.2	633.2
70°	354.8	395.2	486.0	556.7	582.7
72.5°	297.1	343.3	434.1	507.7	535.1
75°	239.4	294.2	383.6	455.8	481.7
77.5°	186.1	242.3	331.7	390.9	403.8
80°	137.0	194.7	272.6	314.4	330.3
82.5°	88.0	145.7	207.7	238.0	251.0
85°	49.0	96.6	135.6	152.9	158.6
87.5°	20.2	41.8	54.8	62.0	62.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)