

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: P310768

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CA08-W2A-U-6500K**

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: P310768
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-L82765-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 6500K 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: 4286.0 lumens
Efficiency: N/A
Efficacy: 121.4 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

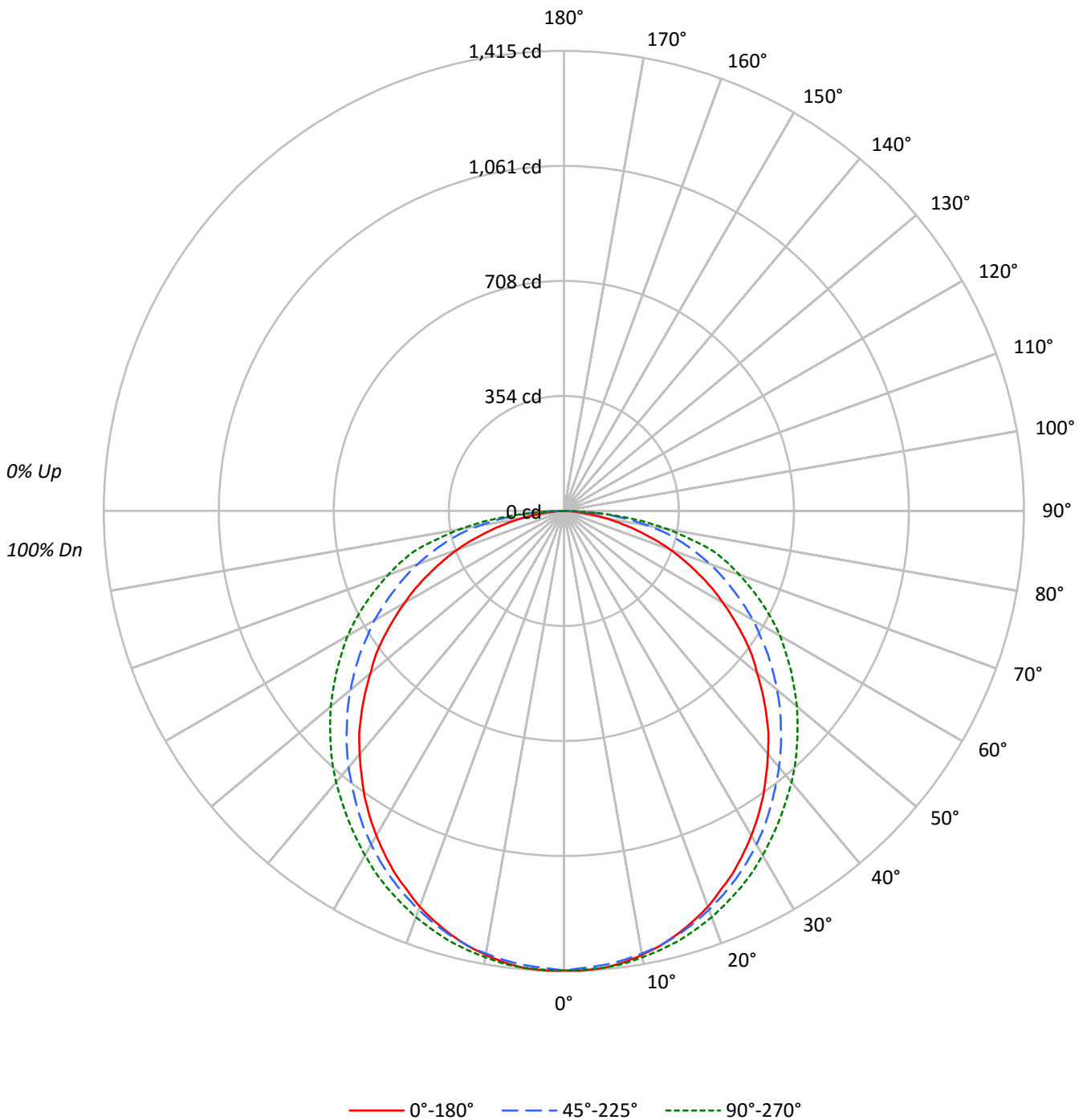
Input Watts (W): 35.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1902	1902	1902
5°	1905	1894	1905
10°	1894	1888	1904
15°	1878	1882	1906
20°	1855	1869	1904
25°	1826	1856	1902
30°	1792	1840	1900
35°	1757	1822	1901
40°	1716	1808	1913
45°	1675	1797	1929
50°	1625	1792	1959
55°	1585	1795	1998
60°	1523	1810	2066
65°	1453	1829	2141
70°	1376	1885	2260
75°	1227	1967	2469
80°	1047	2083	2523
85°	746	2064	2414



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.8	3.1
10°-20°	382.5	8.9
20°-30°	577.7	13.5
30°-40°	696.3	16.2
40°-50°	731.0	17.1
50°-60°	683.9	16.0
60°-70°	564.8	13.2
70°-80°	384.9	9.0
80°-90°	131.2	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°	1094.0	25.5
0°-40°	1790.3	41.8
0°-60°	3205.2	74.8
0°-90°	4286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4286.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1414	1414	1414	1414	1414	
5°	1411	1409	1402	1411	1411	134
15°	1348	1350	1351	1365	1368	380
25°	1230	1236	1250	1274	1281	566
35°	1069	1081	1109	1146	1158	668
45°	880	899	944	995	1014	679
55°	676	702	765	828	852	603
65°	456	495	574	647	673	453
75°	236	290	378	449	475	252
85°	48	95	134	151	156	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1413.5	1413.5	1413.5	1413.5	1413.5
2.5°	1414.9	1413.5	1406.4	1413.5	1412.1
5°	1410.6	1409.2	1402.1	1410.6	1410.6
7.5°	1400.7	1400.7	1393.6	1403.5	1405.0
10°	1386.5	1386.5	1382.2	1393.6	1393.6
12.5°	1369.4	1369.4	1369.4	1380.8	1382.2
15°	1348.1	1349.5	1350.9	1365.1	1368.0
17.5°	1322.5	1325.3	1329.6	1346.7	1349.5
20°	1295.5	1298.3	1305.4	1325.3	1329.6
22.5°	1261.3	1268.4	1278.4	1301.1	1305.4
25°	1230.0	1235.7	1250.0	1274.1	1281.2
27.5°	1191.7	1200.2	1218.7	1244.3	1254.2
30°	1153.3	1161.8	1184.5	1214.4	1222.9
32.5°	1112.0	1124.8	1149.0	1180.3	1190.2
35°	1069.4	1080.7	1109.2	1146.1	1157.5
37.5°	1022.4	1038.1	1069.4	1109.2	1123.4
40°	976.9	994.0	1029.5	1072.2	1089.3
42.5°	931.4	948.5	988.3	1036.7	1053.7
45°	880.2	898.7	944.2	995.4	1013.9
47.5°	829.0	851.8	901.6	955.6	975.5
50°	776.4	802.0	856.1	912.9	935.7
52.5°	729.5	753.7	810.6	871.7	893.0
55°	675.5	702.5	765.0	827.6	851.8
57.5°	620.0	649.9	716.7	785.0	809.1
60°	566.0	598.7	672.6	740.9	767.9
62.5°	513.3	546.1	622.8	693.9	721.0
65°	456.5	494.9	574.5	647.0	672.6
67.5°	402.4	443.7	527.6	598.7	624.3
70°	349.8	389.6	479.2	548.9	574.5
72.5°	292.9	338.4	428.0	500.6	527.6
75°	236.1	290.1	378.3	449.4	475.0
77.5°	183.4	238.9	327.1	385.4	398.2
80°	135.1	192.0	268.8	310.0	325.6
82.5°	86.7	143.6	204.8	234.6	247.4
85°	48.3	95.3	133.7	150.7	156.4
87.5°	19.9	41.2	54.0	61.1	61.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)