

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: P310793

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP187-W2A-U-5500K**

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: P310793
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-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 3990.0 lumens
Efficiency: N/A
Efficacy: 115.0 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

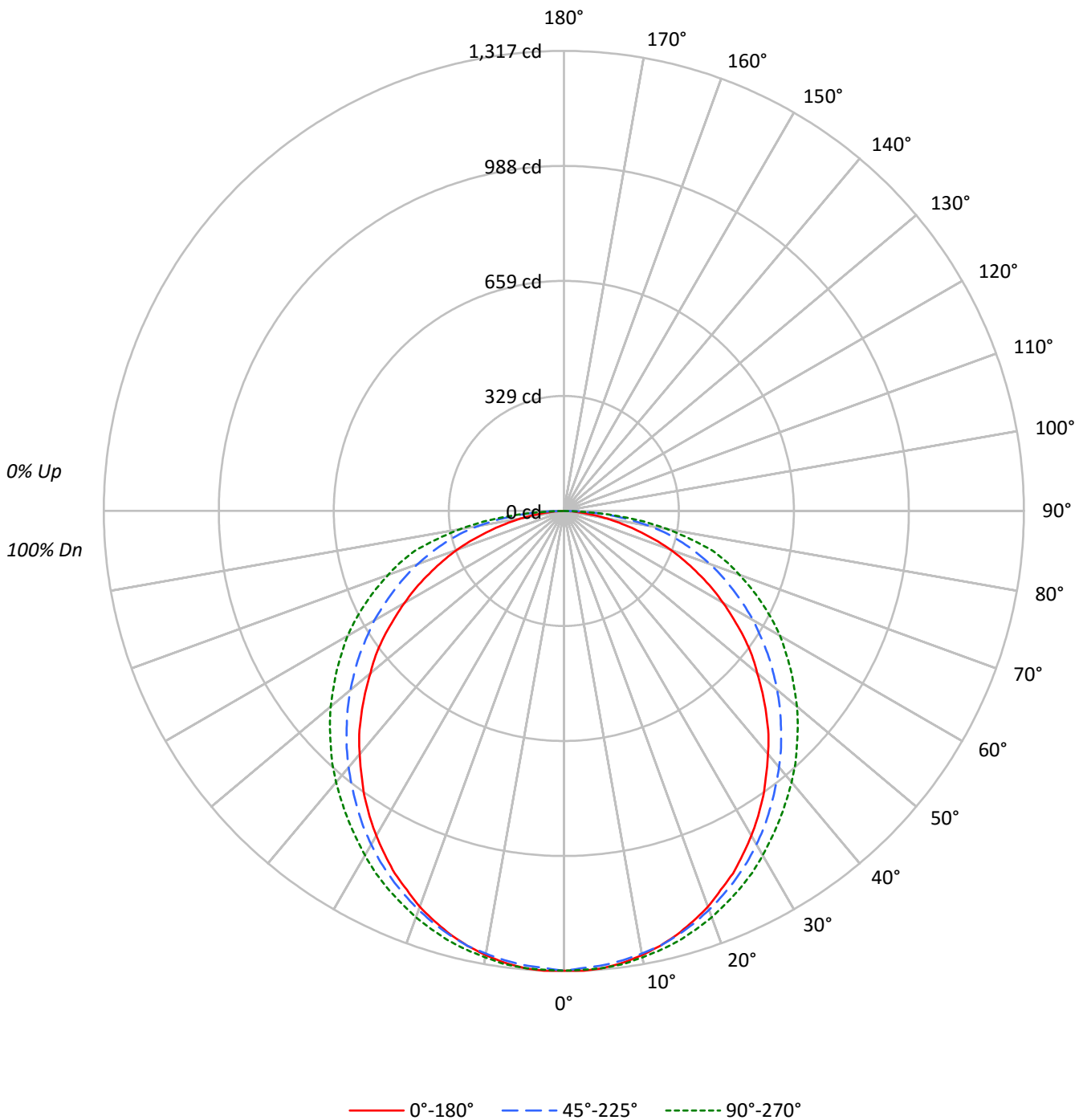
Input Watts (W): 34.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1771	1771	1771
5°	1774	1763	1774
10°	1763	1758	1772
15°	1748	1752	1774
20°	1727	1740	1772
25°	1700	1727	1771
30°	1668	1713	1769
35°	1635	1696	1770
40°	1597	1683	1781
45°	1559	1673	1796
50°	1513	1668	1823
55°	1475	1671	1860
60°	1418	1685	1924
65°	1353	1703	1994
70°	1281	1755	2104
75°	1143	1830	2299
80°	975	1939	2349
85°	695	1920	2248



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.5	3.1
10°-20°	356.1	8.9
20°-30°	537.8	13.5
30°-40°	648.2	16.2
40°-50°	680.5	17.1
50°-60°	636.7	16.0
60°-70°	525.7	13.2
70°-80°	358.3	9.0
80°-90°	122.2	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°	1018.4	25.5
0°-40°	1666.6	41.8
0°-60°	2983.8	74.8
0°-90°	3990.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3990.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1316	1316	1316	1316	1316	
5°	1313	1312	1305	1313	1313	125
15°	1255	1256	1258	1271	1274	354
25°	1145	1150	1164	1186	1193	527
35°	996	1006	1033	1067	1078	622
45°	819	837	879	927	944	632
55°	629	654	712	770	793	561
65°	425	461	535	602	626	421
75°	220	270	352	418	442	234
85°	45	89	124	140	146	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1315.9	1315.9	1315.9	1315.9	1315.9
2.5°	1317.2	1315.9	1309.2	1315.9	1314.5
5°	1313.2	1311.9	1305.3	1313.2	1313.2
7.5°	1304.0	1304.0	1297.3	1306.6	1307.9
10°	1290.7	1290.7	1286.7	1297.3	1297.3
12.5°	1274.8	1274.8	1274.8	1285.4	1286.7
15°	1255.0	1256.3	1257.6	1270.9	1273.5
17.5°	1231.1	1233.8	1237.8	1253.6	1256.3
20°	1206.0	1208.6	1215.3	1233.8	1237.8
22.5°	1174.2	1180.8	1190.1	1211.3	1215.3
25°	1145.1	1150.4	1163.6	1186.1	1192.8
27.5°	1109.4	1117.3	1134.5	1158.3	1167.6
30°	1073.6	1081.6	1102.7	1130.5	1138.5
32.5°	1035.2	1047.1	1069.6	1098.8	1108.0
35°	995.5	1006.1	1032.6	1067.0	1077.6
37.5°	951.8	966.4	995.5	1032.6	1045.8
40°	909.5	925.3	958.4	998.2	1014.0
42.5°	867.1	883.0	920.0	965.1	980.9
45°	819.4	836.6	879.0	926.7	943.9
47.5°	771.8	793.0	839.3	889.6	908.1
50°	722.8	746.6	796.9	849.9	871.1
52.5°	679.1	701.6	754.6	811.5	831.4
55°	628.8	654.0	712.2	770.5	793.0
57.5°	577.2	605.0	667.2	730.7	753.2
60°	526.9	557.3	626.2	689.7	714.9
62.5°	477.9	508.3	579.8	646.0	671.2
65°	424.9	460.7	534.8	602.3	626.2
67.5°	374.6	413.0	491.1	557.3	581.2
70°	325.7	362.7	446.1	511.0	534.8
72.5°	272.7	315.1	398.5	466.0	491.1
75°	219.8	270.1	352.1	418.3	442.2
77.5°	170.8	222.4	304.5	358.8	370.7
80°	125.8	178.7	250.2	288.6	303.2
82.5°	80.8	133.7	190.6	218.4	230.3
85°	45.0	88.7	124.4	140.3	145.6
87.5°	18.5	38.4	50.3	56.9	56.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)