

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: P310766

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CA08-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: P310766
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-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 4264.0 lumens
Efficiency: N/A
Efficacy: 122.9 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

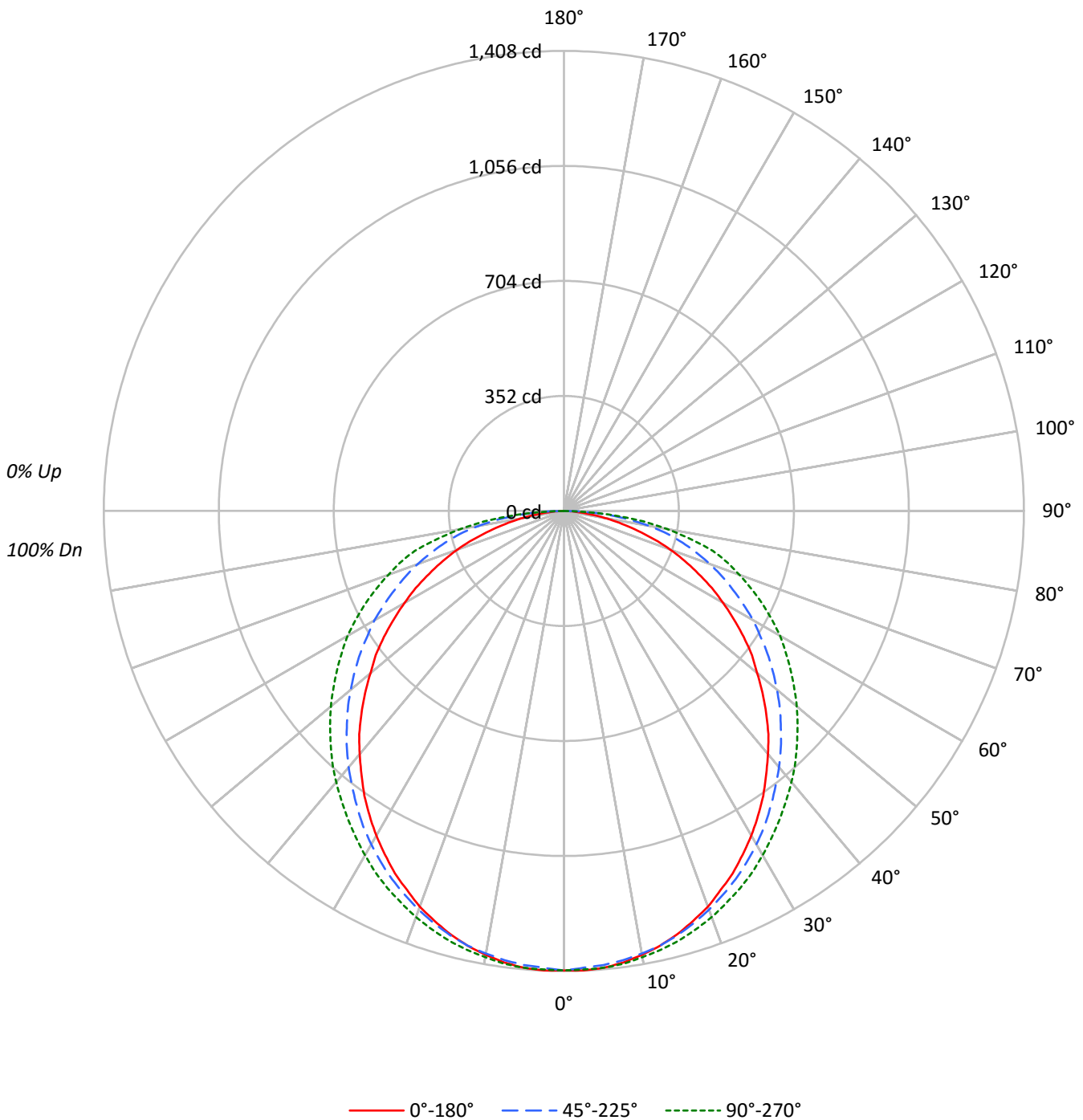
Input Watts (W): 34.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1892	1892	1892
5°	1895	1884	1895
10°	1885	1879	1894
15°	1868	1872	1896
20°	1845	1860	1894
25°	1817	1846	1892
30°	1782	1831	1890
35°	1747	1813	1892
40°	1707	1799	1903
45°	1666	1787	1919
50°	1617	1783	1949
55°	1576	1785	1988
60°	1515	1801	2056
65°	1446	1819	2131
70°	1369	1876	2248
75°	1221	1956	2456
80°	1041	2072	2510
85°	743	2053	2402



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.1	3.1
10°-20°	380.5	8.9
20°-30°	574.8	13.5
30°-40°	692.7	16.2
40°-50°	727.2	17.1
50°-60°	680.4	16.0
60°-70°	561.9	13.2
70°-80°	382.9	9.0
80°-90°	130.6	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°	1088.4	25.5
0°-40°	1781.1	41.8
0°-60°	3188.7	74.8
0°-90°	4264.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4264.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1406	1406	1406	1406	1406	
5°	1403	1402	1395	1403	1403	133
15°	1341	1343	1344	1358	1361	378
25°	1224	1229	1244	1268	1275	563
35°	1064	1075	1104	1140	1152	665
45°	876	894	939	990	1009	675
55°	672	699	761	823	847	600
65°	454	492	572	644	669	450
75°	235	289	376	447	472	250
85°	48	95	133	150	156	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1406.2	1406.2	1406.2	1406.2	1406.2
2.5°	1407.6	1406.2	1399.2	1406.2	1404.8
5°	1403.4	1402.0	1394.9	1403.4	1403.4
7.5°	1393.5	1393.5	1386.4	1396.3	1397.7
10°	1379.4	1379.4	1375.1	1386.4	1386.4
12.5°	1362.4	1362.4	1362.4	1373.7	1375.1
15°	1341.2	1342.6	1344.0	1358.1	1361.0
17.5°	1315.7	1318.5	1322.8	1339.7	1342.6
20°	1288.8	1291.6	1298.7	1318.5	1322.8
22.5°	1254.9	1261.9	1271.8	1294.5	1298.7
25°	1223.7	1229.4	1243.5	1267.6	1274.7
27.5°	1185.5	1194.0	1212.4	1237.9	1247.8
30°	1147.3	1155.8	1178.5	1208.2	1216.7
32.5°	1106.3	1119.0	1143.1	1174.2	1184.1
35°	1063.9	1075.2	1103.5	1140.3	1151.6
37.5°	1017.2	1032.7	1063.9	1103.5	1117.6
40°	971.9	988.9	1024.3	1066.7	1083.7
42.5°	926.6	943.6	983.2	1031.3	1048.3
45°	875.7	894.1	939.4	990.3	1008.7
47.5°	824.8	847.4	896.9	950.7	970.5
50°	772.4	797.9	851.7	908.2	930.9
52.5°	725.8	749.8	806.4	867.2	888.4
55°	672.0	698.9	761.1	823.4	847.4
57.5°	616.8	646.5	713.0	780.9	805.0
60°	563.1	595.6	669.2	737.1	763.9
62.5°	510.7	543.3	619.6	690.4	717.3
65°	454.1	492.3	571.5	643.7	669.2
67.5°	400.4	441.4	524.9	595.6	621.1
70°	348.0	387.6	476.8	546.1	571.5
72.5°	291.4	336.7	425.8	498.0	524.9
75°	234.8	288.6	376.3	447.1	472.5
77.5°	182.5	237.7	325.4	383.4	396.1
80°	134.4	191.0	267.4	308.4	324.0
82.5°	86.3	142.9	203.7	233.4	246.2
85°	48.1	94.8	133.0	150.0	155.6
87.5°	19.8	41.0	53.8	60.8	60.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)