

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: P310799

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP250-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: P310799
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-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB 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: 3799.0 lumens
Efficiency: N/A
Efficacy: 111.1 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

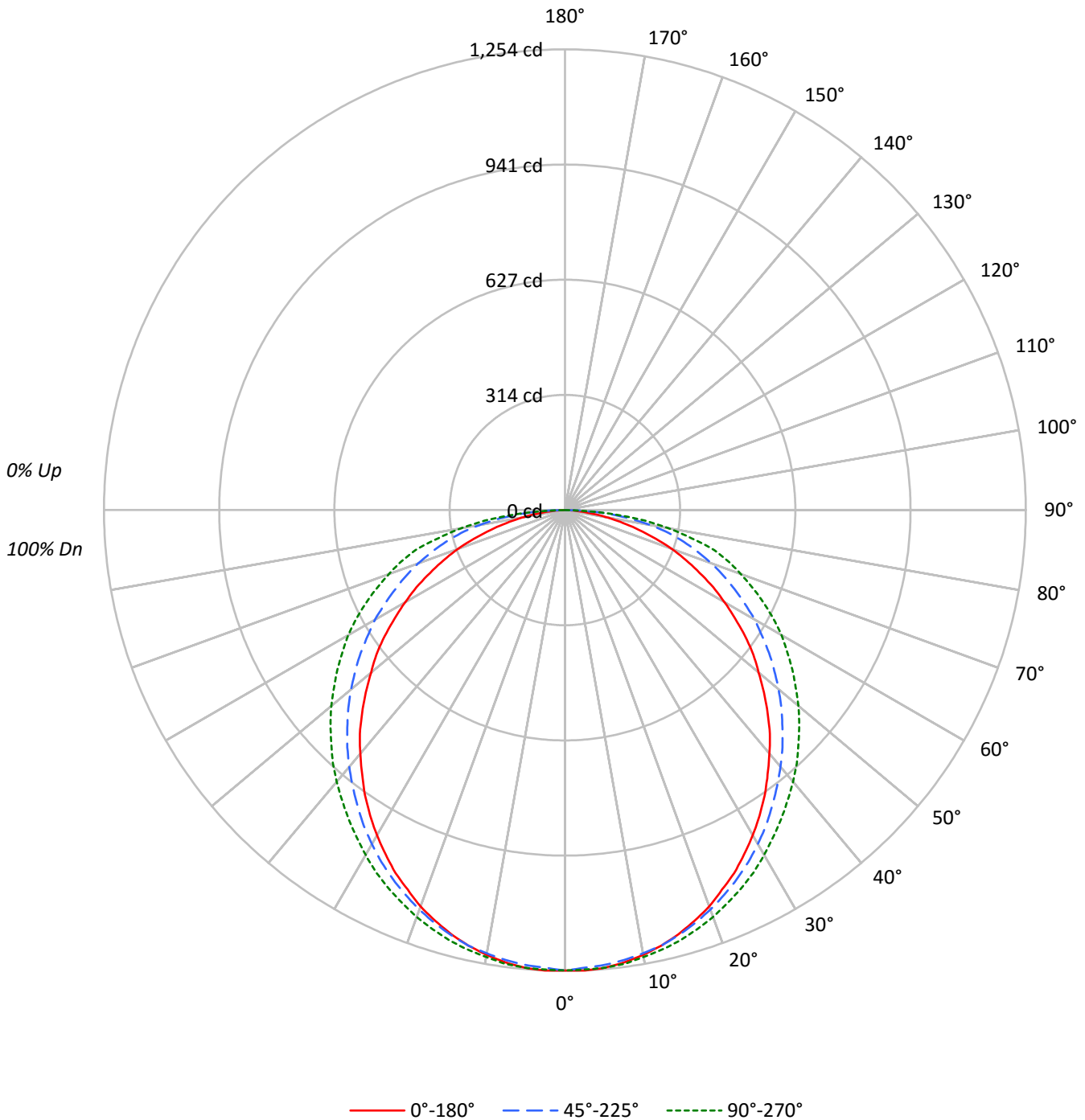
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310799

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-CP250-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P310799

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-CP250-W2A-U-4000K

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°	1686	1686	1686
5°	1689	1679	1689
10°	1679	1674	1688
15°	1664	1668	1689
20°	1644	1657	1687
25°	1619	1645	1686
30°	1588	1631	1684
35°	1557	1615	1685
40°	1521	1603	1696
45°	1485	1592	1710
50°	1441	1588	1736
55°	1404	1591	1771
60°	1350	1604	1831
65°	1288	1621	1898
70°	1220	1671	2003
75°	1088	1743	2189
80°	927	1846	2236
85°	662	1829	2140



TEST NUMBER: P310799

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-CP250-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.6	3.1
10°-20°	339.0	8.9
20°-30°	512.1	13.5
30°-40°	617.2	16.2
40°-50°	647.9	17.1
50°-60°	606.2	16.0
60°-70°	500.6	13.2
70°-80°	341.1	9.0
80°-90°	116.3	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°	969.7	25.5
0°-40°	1586.9	41.8
0°-60°	2841.0	74.8
0°-90°	3799.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3799.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1253	1253	1253	1253	1253	
5°	1250	1249	1243	1250	1250	119
15°	1195	1196	1197	1210	1212	337
25°	1090	1095	1108	1129	1136	502
35°	948	958	983	1016	1026	592
45°	780	797	837	882	899	602
55°	599	623	678	734	755	534
65°	405	439	509	574	596	401
75°	209	257	335	398	421	223
85°	43	84	118	134	139	54
90°	0	0	0	0	0	



TEST NUMBER: P310799

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-CP250-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.9	1252.9	1252.9	1252.9	1252.9
2.5°	1254.1	1252.9	1246.6	1252.9	1251.6
5°	1250.4	1249.1	1242.8	1250.4	1250.4
7.5°	1241.5	1241.5	1235.2	1244.1	1245.3
10°	1228.9	1228.9	1225.1	1235.2	1235.2
12.5°	1213.8	1213.8	1213.8	1223.9	1225.1
15°	1194.9	1196.2	1197.4	1210.0	1212.5
17.5°	1172.2	1174.7	1178.5	1193.6	1196.2
20°	1148.3	1150.8	1157.1	1174.7	1178.5
22.5°	1118.0	1124.3	1133.1	1153.3	1157.1
25°	1090.3	1095.3	1107.9	1129.4	1135.7
27.5°	1056.2	1063.8	1080.2	1102.9	1111.7
30°	1022.2	1029.8	1049.9	1076.4	1084.0
32.5°	985.7	997.0	1018.4	1046.2	1055.0
35°	947.9	957.9	983.1	1015.9	1026.0
37.5°	906.3	920.1	947.9	983.1	995.7
40°	865.9	881.0	912.6	950.4	965.5
42.5°	825.6	840.7	876.0	918.9	934.0
45°	780.2	796.6	836.9	882.3	898.7
47.5°	734.8	755.0	799.1	847.0	864.7
50°	688.2	710.9	758.8	809.2	829.4
52.5°	646.6	668.0	718.5	772.6	791.6
55°	598.7	622.7	678.1	733.6	755.0
57.5°	549.6	576.0	635.3	695.8	717.2
60°	501.7	530.6	596.2	656.7	680.6
62.5°	455.0	484.0	552.1	615.1	639.0
65°	404.6	438.6	509.2	573.5	596.2
67.5°	356.7	393.3	467.6	530.6	553.3
70°	310.1	345.4	424.8	486.5	509.2
72.5°	259.7	300.0	379.4	443.7	467.6
75°	209.2	257.1	335.3	398.3	421.0
77.5°	162.6	211.8	289.9	341.6	352.9
80°	119.7	170.2	238.2	274.8	288.6
82.5°	76.9	127.3	181.5	208.0	219.3
85°	42.9	84.4	118.5	133.6	138.6
87.5°	17.6	36.6	47.9	54.2	54.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)