

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: P310889

Luminaire Tested: **24FCZ2-50HE-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: P310889
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: 24FCZ2-50HE-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: 4257.0 lumens
Efficiency: N/A
Efficacy: 109.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

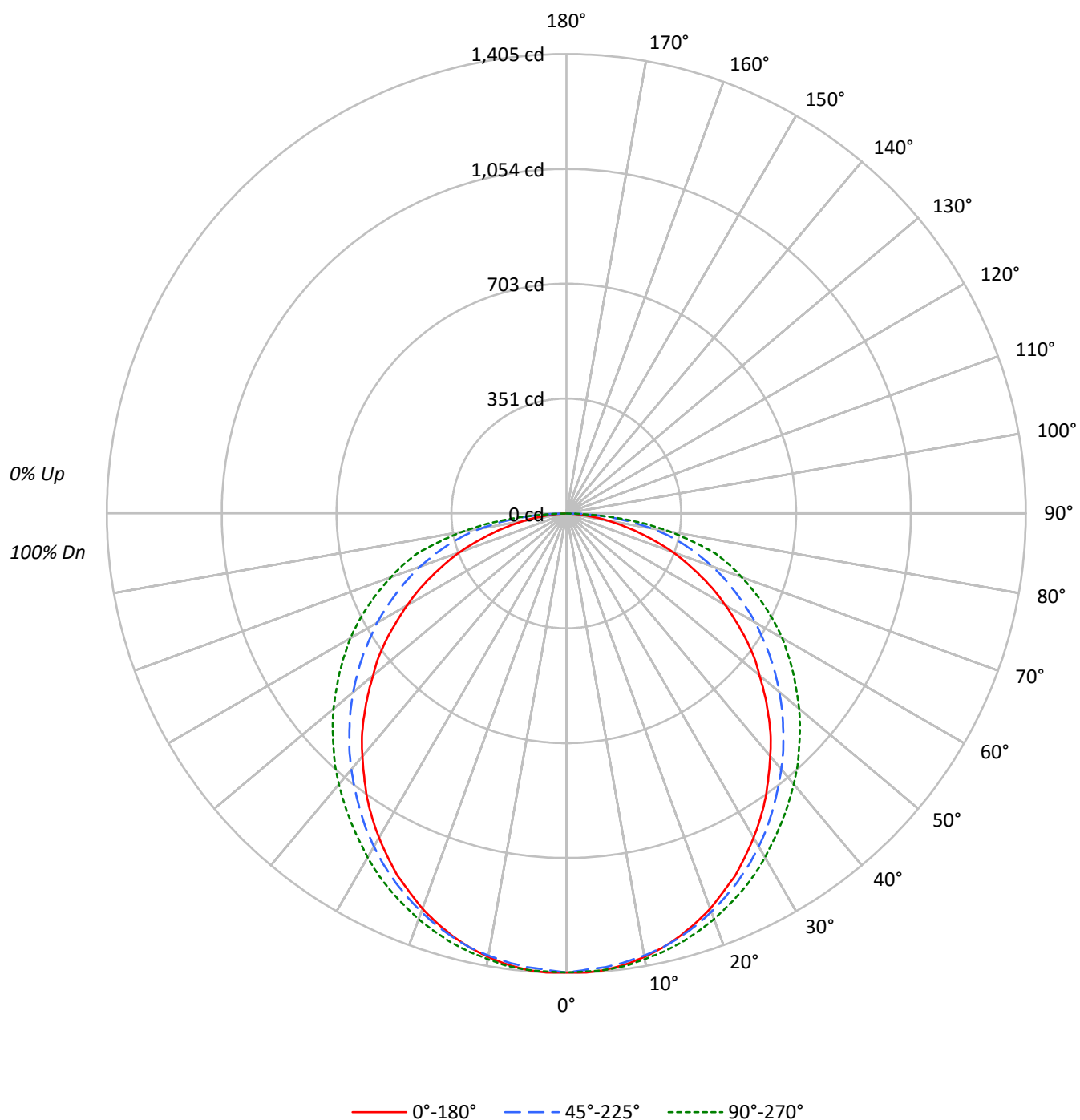
Input Watts (W): 38.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310889

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-CP250-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P310889

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-CP250-W2A-U-4000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1889	1889	1889
5°	1892	1881	1892
10°	1881	1876	1891
15°	1865	1869	1893
20°	1842	1857	1891
25°	1814	1843	1889
30°	1780	1828	1887
35°	1745	1810	1888
40°	1704	1796	1900
45°	1664	1784	1916
50°	1614	1780	1945
55°	1574	1783	1985
60°	1513	1798	2052
65°	1443	1817	2127
70°	1367	1873	2245
75°	1219	1953	2452
80°	1040	2068	2506
85°	741	2050	2399



TEST NUMBER: P310889

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-CP250-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.9	3.1
10°-20°	379.9	8.9
20°-30°	573.8	13.5
30°-40°	691.6	16.2
40°-50°	726.0	17.1
50°-60°	679.3	16.0
60°-70°	560.9	13.2
70°-80°	382.2	9.0
80°-90°	130.4	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°	1086.6	25.5
0°-40°	1778.2	41.8
0°-60°	3183.5	74.8
0°-90°	4257.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4257.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1404	1404	1404	1404	1404	
5°	1401	1400	1393	1401	1401	133
15°	1339	1340	1342	1356	1359	377
25°	1222	1227	1242	1266	1273	562
35°	1062	1073	1102	1138	1150	664
45°	874	893	938	989	1007	674
55°	671	698	760	822	846	599
65°	453	492	571	643	668	450
75°	234	288	376	446	472	250
85°	48	95	133	150	155	60
90°	0	0	0	0	0	



TEST NUMBER: P310889

CATALOG NUMBER: 24FCZ2-50HE-UNV-L82765-CP250-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1403.9	1403.9	1403.9	1403.9	1403.9
2.5°	1405.3	1403.9	1396.9	1403.9	1402.5
5°	1401.1	1399.7	1392.6	1401.1	1401.1
7.5°	1391.2	1391.2	1384.1	1394.0	1395.4
10°	1377.1	1377.1	1372.8	1384.1	1384.1
12.5°	1360.1	1360.1	1360.1	1371.4	1372.8
15°	1339.0	1340.4	1341.8	1355.9	1358.7
17.5°	1313.5	1316.4	1320.6	1337.5	1340.4
20°	1286.7	1289.5	1296.6	1316.4	1320.6
22.5°	1252.8	1259.9	1269.7	1292.3	1296.6
25°	1221.7	1227.4	1241.5	1265.5	1272.6
27.5°	1183.6	1192.1	1210.4	1235.8	1245.7
30°	1145.5	1153.9	1176.5	1206.2	1214.7
32.5°	1104.5	1117.2	1141.2	1172.3	1182.2
35°	1062.1	1073.4	1101.7	1138.4	1149.7
37.5°	1015.5	1031.0	1062.1	1101.7	1115.8
40°	970.3	987.3	1022.6	1064.9	1081.9
42.5°	925.1	942.1	981.6	1029.6	1046.6
45°	874.3	892.6	937.8	988.7	1007.0
47.5°	823.4	846.0	895.5	949.1	968.9
50°	771.2	796.6	850.3	906.8	929.4
52.5°	724.6	748.6	805.1	865.8	887.0
55°	670.9	697.7	759.9	822.0	846.0
57.5°	615.8	645.5	711.8	779.6	803.7
60°	562.1	594.6	668.1	735.9	762.7
62.5°	509.9	542.4	618.6	689.2	716.1
65°	453.4	491.5	570.6	642.6	668.1
67.5°	399.7	440.7	524.0	594.6	620.0
70°	347.4	387.0	476.0	545.2	570.6
72.5°	291.0	336.2	425.1	497.2	524.0
75°	234.5	288.1	375.7	446.3	471.7
77.5°	182.2	237.3	324.9	382.8	395.5
80°	134.2	190.7	266.9	307.9	323.4
82.5°	86.2	142.7	203.4	233.0	245.8
85°	48.0	94.6	132.8	149.7	155.4
87.5°	19.8	41.0	53.7	60.7	60.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)