

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: P310995

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CA125-W2A-U-3000K**

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: P310995
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: 24FCZ2-60HE-UNV-L82765-CA125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 3000K 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: 5188.0 lumens
Efficiency: N/A
Efficacy: 109.7 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

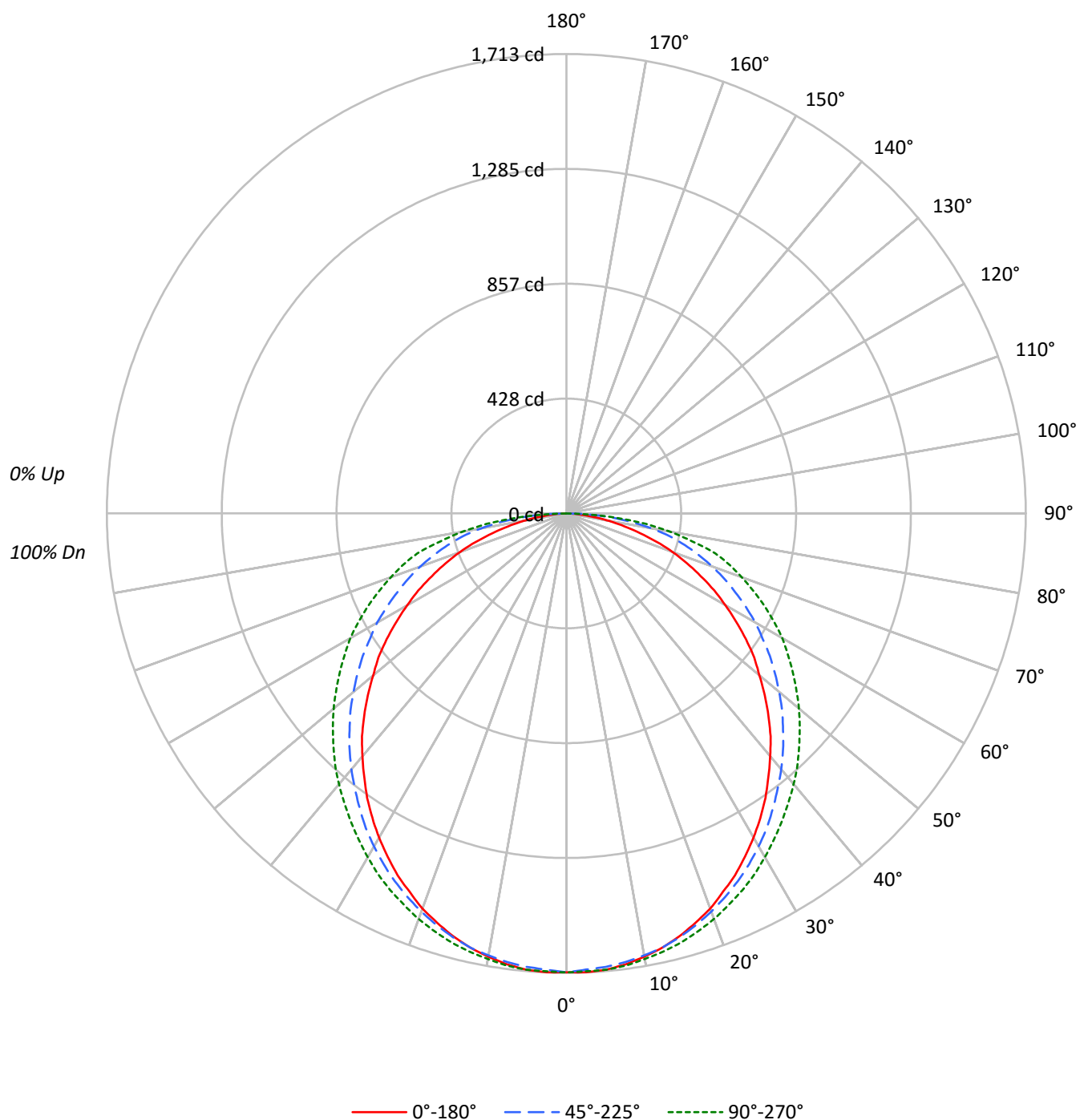
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310995

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-CA125-W2A-U-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P310995

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-CA125-W2A-U-3000K

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°	2302	2302	2302
5°	2306	2292	2306
10°	2293	2286	2305
15°	2273	2278	2307
20°	2245	2262	2304
25°	2210	2246	2302
30°	2169	2228	2300
35°	2126	2205	2301
40°	2077	2189	2316
45°	2027	2175	2335
50°	1967	2169	2371
55°	1918	2172	2419
60°	1844	2191	2501
65°	1759	2214	2592
70°	1666	2282	2736
75°	1485	2380	2989
80°	1267	2521	3054
85°	903	2498	2922



TEST NUMBER: P310995

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-CA125-W2A-U-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.9	3.1
10°-20°	463.0	8.9
20°-30°	699.3	13.5
30°-40°	842.8	16.2
40°-50°	884.8	17.1
50°-60°	827.8	16.0
60°-70°	683.6	13.2
70°-80°	465.8	9.0
80°-90°	158.9	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°	1324.2	25.5
0°-40°	2167.1	41.8
0°-60°	3879.7	74.8
0°-90°	5188.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5188.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1711	1711	1711	1711	1711	
5°	1708	1706	1697	1708	1708	162
15°	1632	1634	1635	1652	1656	460
25°	1489	1496	1513	1542	1551	685
35°	1294	1308	1343	1387	1401	809
45°	1066	1088	1143	1205	1227	822
55°	818	850	926	1002	1031	730
65°	552	599	695	783	814	548
75°	286	351	458	544	575	305
85°	58	115	162	182	189	73
90°	0	0	0	0	0	



TEST NUMBER: P310995

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-CA125-W2A-U-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1711.0	1711.0	1711.0	1711.0	1711.0
2.5°	1712.7	1711.0	1702.4	1711.0	1709.2
5°	1707.5	1705.8	1697.2	1707.5	1707.5
7.5°	1695.5	1695.5	1686.9	1698.9	1700.6
10°	1678.3	1678.3	1673.1	1686.9	1686.9
12.5°	1657.6	1657.6	1657.6	1671.4	1673.1
15°	1631.8	1633.5	1635.2	1652.4	1655.9
17.5°	1600.8	1604.2	1609.4	1630.1	1633.5
20°	1568.1	1571.5	1580.1	1604.2	1609.4
22.5°	1526.8	1535.4	1547.4	1575.0	1580.1
25°	1488.9	1495.8	1513.0	1542.3	1550.9
27.5°	1442.4	1452.8	1475.1	1506.1	1518.2
30°	1396.0	1406.3	1433.8	1470.0	1480.3
32.5°	1346.0	1361.5	1390.8	1428.7	1440.7
35°	1294.4	1308.2	1342.6	1387.4	1401.1
37.5°	1237.6	1256.5	1294.4	1342.6	1359.8
40°	1182.5	1203.2	1246.2	1297.8	1318.5
42.5°	1127.4	1148.1	1196.3	1254.8	1275.5
45°	1065.5	1087.9	1142.9	1204.9	1227.3
47.5°	1003.5	1031.0	1091.3	1156.7	1180.8
50°	939.8	970.8	1036.2	1105.1	1132.6
52.5°	883.0	912.3	981.1	1055.1	1081.0
55°	817.6	850.3	926.1	1001.8	1031.0
57.5°	750.5	786.6	867.5	950.1	979.4
60°	685.1	724.7	814.2	896.8	929.5
62.5°	621.4	661.0	753.9	840.0	872.7
65°	552.5	599.0	695.4	783.2	814.2
67.5°	487.1	537.0	638.6	724.7	755.6
70°	423.4	471.6	580.1	664.4	695.4
72.5°	354.6	409.7	518.1	605.9	638.6
75°	285.7	351.1	457.9	543.9	574.9
77.5°	222.0	289.2	395.9	466.5	482.0
80°	163.5	232.4	325.3	375.2	394.2
82.5°	105.0	173.8	247.9	284.0	299.5
85°	58.5	115.3	161.8	182.5	189.3
87.5°	24.1	49.9	65.4	74.0	74.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)