

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: P314073

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4500K**

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: P314073
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-L83050-CA125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 4500K 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: 5825.0 lumens
Efficiency: N/A
Efficacy: 116.7 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

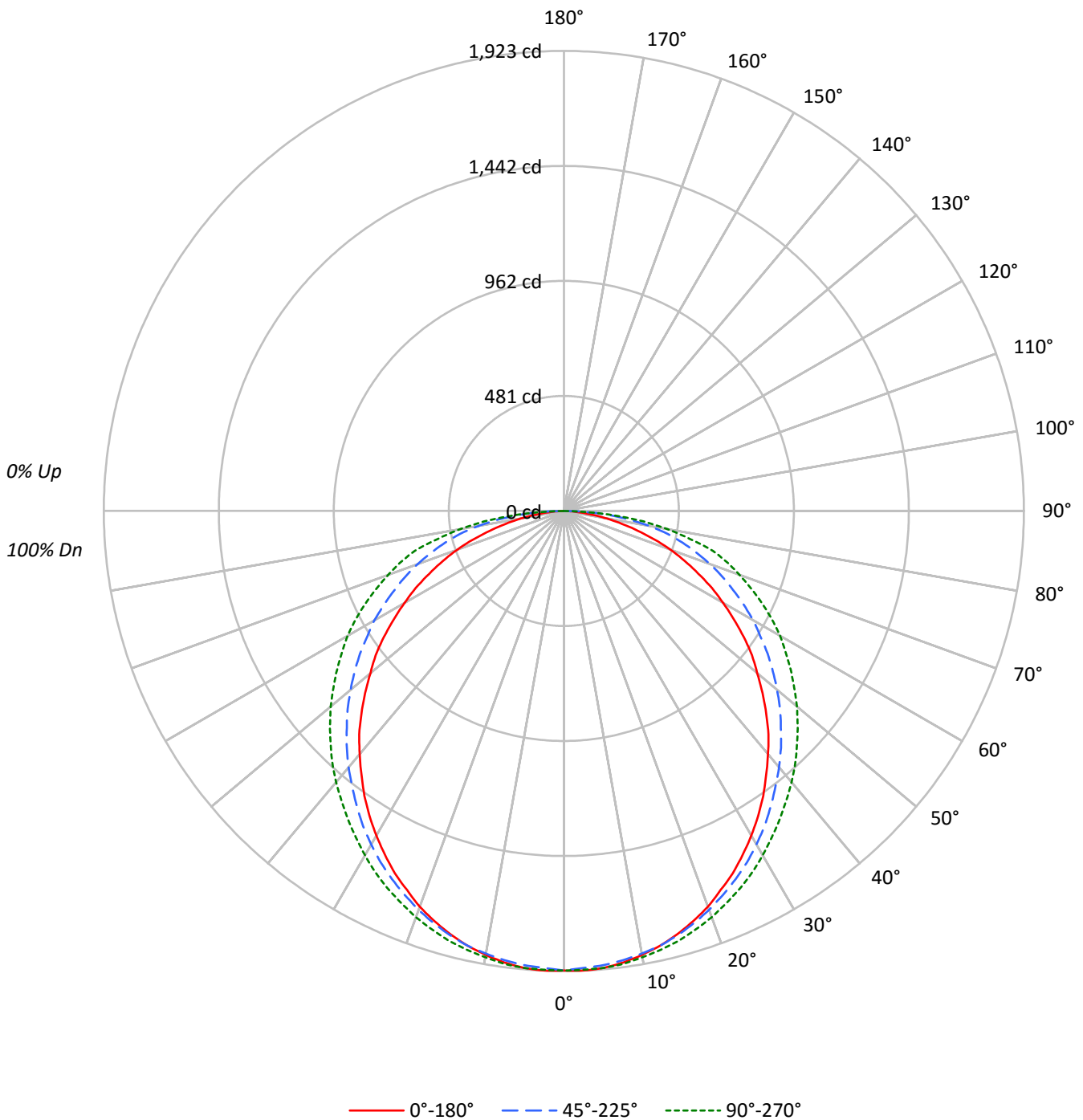
Input Watts (W): 49.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P314073

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4500K

Luminous Intensity Polar Plot





TEST NUMBER: P314073

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4500K

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°	2585	2585	2585
5°	2589	2574	2589
10°	2574	2566	2588
15°	2552	2557	2590
20°	2521	2540	2587
25°	2482	2522	2585
30°	2435	2501	2582
35°	2387	2476	2584
40°	2332	2458	2600
45°	2276	2442	2622
50°	2209	2435	2662
55°	2153	2439	2715
60°	2070	2460	2808
65°	1975	2486	2910
70°	1870	2562	3072
75°	1668	2673	3356
80°	1423	2830	3429
85°	1014	2805	3282



TEST NUMBER: P314073

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.8	3.1
10°-20°	519.8	8.9
20°-30°	785.2	13.5
30°-40°	946.3	16.2
40°-50°	993.5	17.1
50°-60°	929.4	16.0
60°-70°	767.5	13.2
70°-80°	523.0	9.0
80°-90°	178.4	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°	1486.8	25.5
0°-40°	2433.1	41.8
0°-60°	4356.0	74.8
0°-90°	5825.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5825.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1921	1921	1921	1921	1921	
5°	1917	1915	1906	1917	1917	182
15°	1832	1834	1836	1855	1859	516
25°	1672	1680	1699	1732	1741	769
35°	1453	1469	1508	1558	1573	908
45°	1196	1221	1283	1353	1378	923
55°	918	955	1040	1125	1158	819
65°	620	673	781	879	914	615
75°	321	394	514	611	646	342
85°	66	130	182	205	213	82
90°	0	0	0	0	0	



TEST NUMBER: P314073

CATALOG NUMBER: 24FCZ2-60HE-UNV-L83050-CA125-W2A-U-4500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1921.0	1921.0	1921.0	1921.0	1921.0
2.5°	1923.0	1921.0	1911.4	1921.0	1919.1
5°	1917.2	1915.2	1905.6	1917.2	1917.2
7.5°	1903.6	1903.6	1894.0	1907.5	1909.4
10°	1884.3	1884.3	1878.5	1894.0	1894.0
12.5°	1861.1	1861.1	1861.1	1876.6	1878.5
15°	1832.1	1834.1	1836.0	1855.3	1859.2
17.5°	1797.3	1801.2	1807.0	1830.2	1834.1
20°	1760.6	1764.5	1774.2	1801.2	1807.0
22.5°	1714.2	1723.9	1737.4	1768.4	1774.2
25°	1671.7	1679.5	1698.8	1731.6	1741.3
27.5°	1619.5	1631.1	1656.3	1691.1	1704.6
30°	1567.4	1579.0	1609.9	1650.5	1662.1
32.5°	1511.3	1528.7	1561.6	1604.1	1617.6
35°	1453.3	1468.8	1507.5	1557.7	1573.2
37.5°	1389.6	1410.8	1453.3	1507.5	1526.8
40°	1327.7	1350.9	1399.2	1457.2	1480.4
42.5°	1265.9	1289.1	1343.2	1408.9	1432.1
45°	1196.3	1221.4	1283.3	1352.8	1378.0
47.5°	1126.7	1157.6	1225.3	1298.7	1325.8
50°	1055.2	1090.0	1163.4	1240.7	1271.7
52.5°	991.4	1024.3	1101.6	1184.7	1213.7
55°	918.0	954.7	1039.8	1124.8	1157.6
57.5°	842.6	883.2	974.0	1066.8	1099.7
60°	769.2	813.6	914.1	1006.9	1043.6
62.5°	697.7	742.1	846.5	943.1	979.8
65°	620.4	672.6	780.8	879.3	914.1
67.5°	546.9	603.0	717.0	813.6	848.4
70°	475.4	529.5	651.3	746.0	780.8
72.5°	398.1	460.0	581.7	680.3	717.0
75°	320.8	394.3	514.1	610.7	645.5
77.5°	249.3	324.7	444.5	523.7	541.1
80°	183.6	260.9	365.3	421.3	442.6
82.5°	117.9	195.2	278.3	318.9	336.3
85°	65.7	129.5	181.7	204.9	212.6
87.5°	27.1	56.0	73.4	83.1	83.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)