

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: P314078

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CP125-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: P314078
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-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" POLYCARB 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: 5712.0 lumens
Efficiency: N/A
Efficacy: 114.5 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

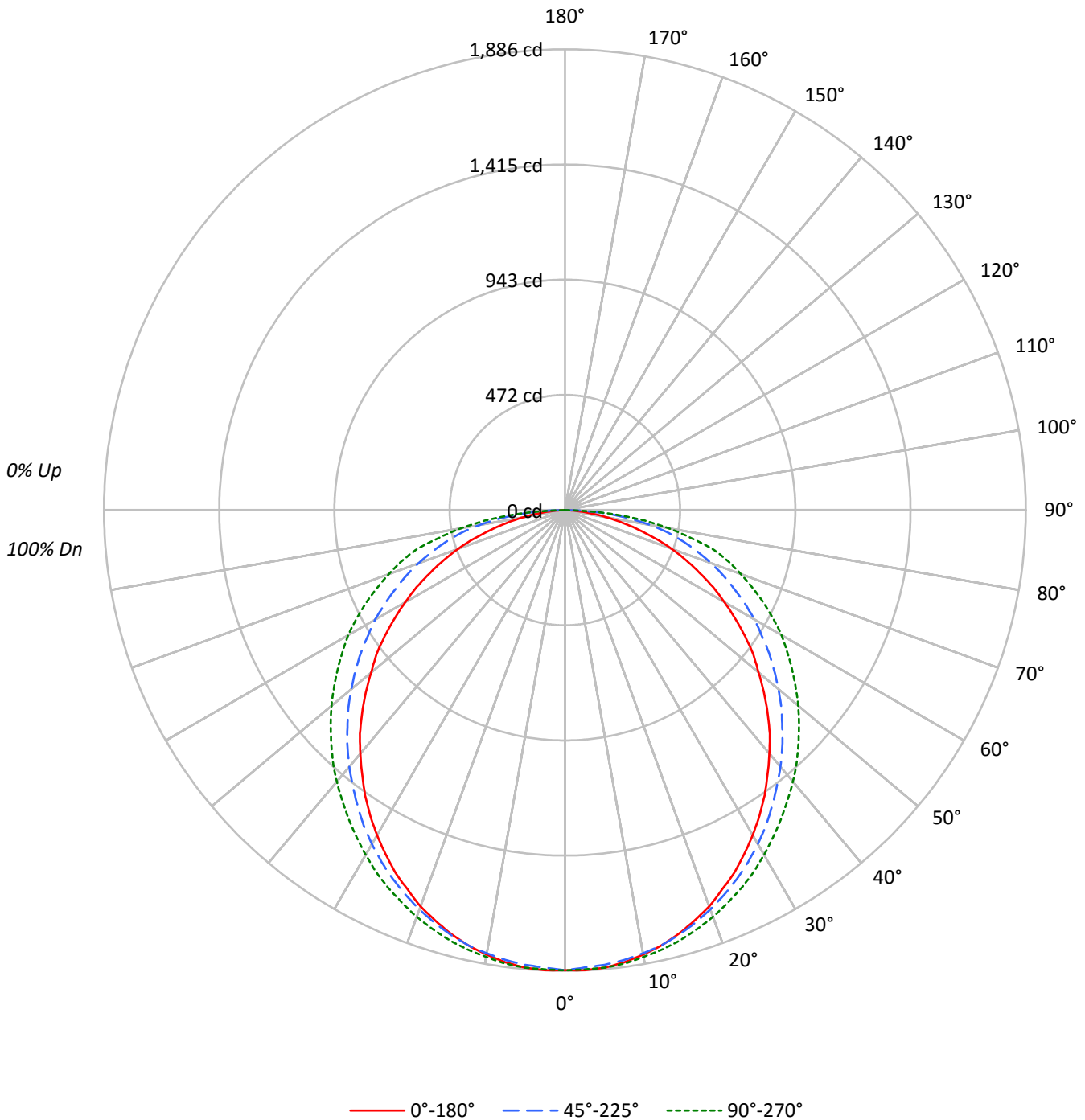
Input Watts (W): 49.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2535	2535	2535
5°	2539	2524	2539
10°	2525	2517	2537
15°	2503	2508	2539
20°	2472	2491	2537
25°	2434	2473	2535
30°	2388	2453	2532
35°	2341	2428	2534
40°	2287	2410	2550
45°	2232	2394	2571
50°	2166	2388	2610
55°	2112	2392	2663
60°	2030	2412	2754
65°	1937	2437	2854
70°	1834	2513	3012
75°	1635	2621	3291
80°	1395	2775	3363
85°	994	2749	3219



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.3	3.1
10°-20°	509.8	8.9
20°-30°	769.9	13.5
30°-40°	928.0	16.2
40°-50°	974.2	17.1
50°-60°	911.4	16.0
60°-70°	752.7	13.2
70°-80°	512.9	9.0
80°-90°	174.9	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°	1458.0	25.5
0°-40°	2385.9	41.8
0°-60°	4271.6	74.8
0°-90°	5712.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5712.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1884	1884	1884	1884	1884	
5°	1880	1878	1869	1880	1880	178
15°	1797	1798	1800	1819	1823	506
25°	1639	1647	1666	1698	1708	754
35°	1425	1440	1478	1528	1543	891
45°	1173	1198	1258	1327	1351	905
55°	900	936	1020	1103	1135	803
65°	608	660	766	862	896	603
75°	315	387	504	599	633	335
85°	64	127	178	201	208	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1883.8	1883.8	1883.8	1883.8	1883.8
2.5°	1885.7	1883.8	1874.3	1883.8	1881.9
5°	1880.0	1878.1	1868.6	1880.0	1880.0
7.5°	1866.7	1866.7	1857.2	1870.5	1872.4
10°	1847.8	1847.8	1842.1	1857.2	1857.2
12.5°	1825.0	1825.0	1825.0	1840.2	1842.1
15°	1796.6	1798.5	1800.4	1819.3	1823.1
17.5°	1762.5	1766.3	1772.0	1794.7	1798.5
20°	1726.5	1730.3	1739.7	1766.3	1772.0
22.5°	1681.0	1690.5	1703.7	1734.1	1739.7
25°	1639.3	1646.9	1665.8	1698.0	1707.5
27.5°	1588.1	1599.5	1624.1	1658.2	1671.5
30°	1537.0	1548.3	1578.7	1618.4	1629.8
32.5°	1482.0	1499.1	1531.3	1573.0	1586.2
35°	1425.1	1440.3	1478.2	1527.5	1542.6
37.5°	1362.6	1383.5	1425.1	1478.2	1497.2
40°	1302.0	1324.7	1372.1	1428.9	1451.7
42.5°	1241.3	1264.1	1317.1	1381.6	1404.3
45°	1173.1	1197.7	1258.4	1326.6	1351.2
47.5°	1104.9	1135.2	1201.5	1273.5	1300.1
50°	1034.7	1068.9	1140.9	1216.7	1247.0
52.5°	972.2	1004.4	1080.2	1161.7	1190.1
55°	900.2	936.2	1019.6	1103.0	1135.2
57.5°	826.3	866.1	955.1	1046.1	1078.3
60°	754.3	797.9	896.4	987.4	1023.4
62.5°	684.1	727.7	830.1	924.8	960.8
65°	608.3	659.5	765.6	862.3	896.4
67.5°	536.3	591.3	703.1	797.9	832.0
70°	466.2	519.3	638.7	731.5	765.6
72.5°	390.4	451.0	570.4	667.1	703.1
75°	314.6	386.6	504.1	598.9	633.0
77.5°	244.5	318.4	435.9	513.6	530.6
80°	180.0	255.8	358.2	413.1	434.0
82.5°	115.6	191.4	272.9	312.7	329.8
85°	64.4	127.0	178.1	200.9	208.5
87.5°	26.5	55.0	72.0	81.5	81.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)