

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: P314103

Luminaire Tested: **24FCZ2-65HE-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: P314103
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: 24FCZ2-65HE-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: 6189.0 lumens
Efficiency: N/A
Efficacy: 112.1 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

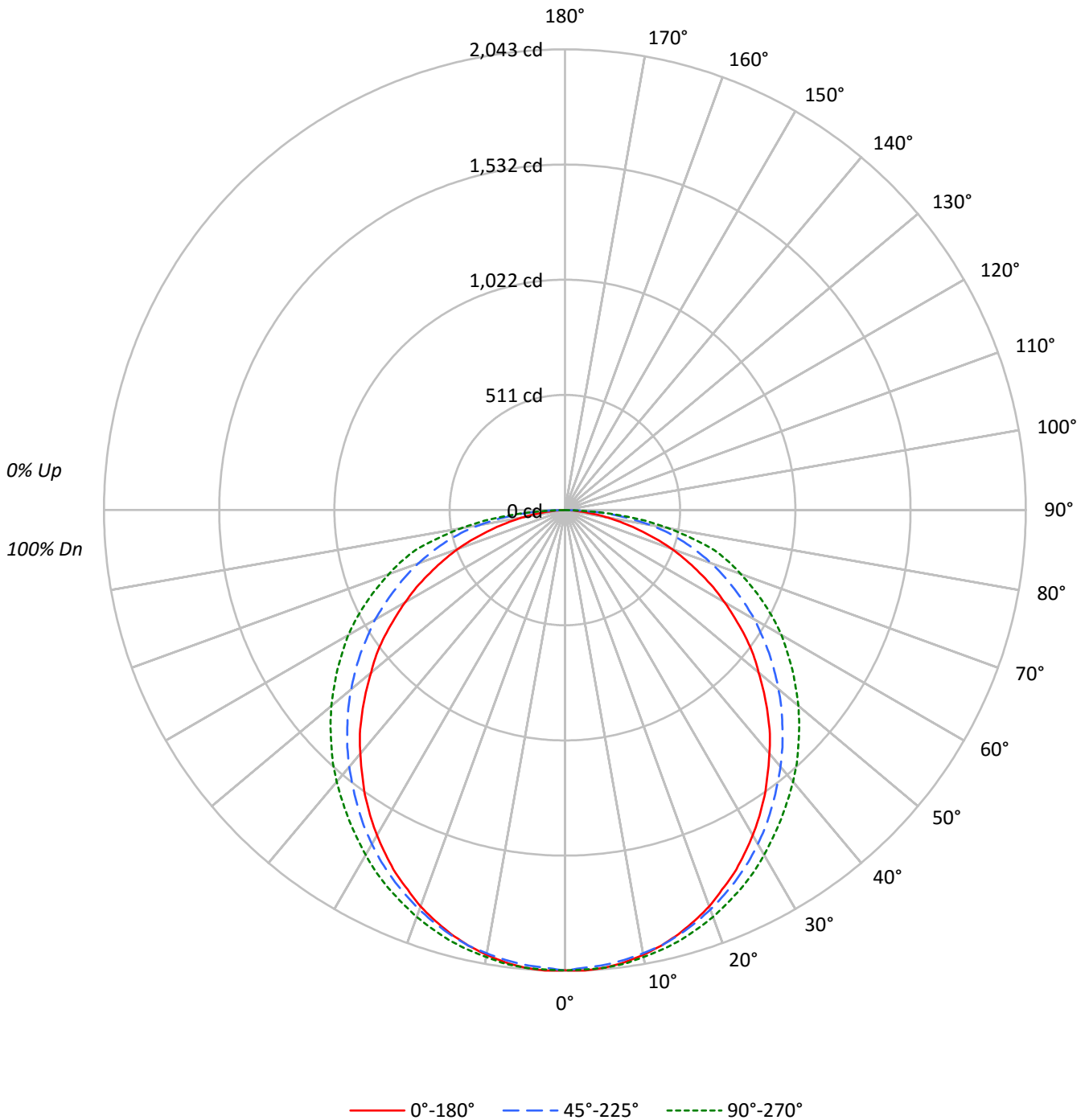
Input Watts (W): 55.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	100	100	100	100	100		
	1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82	82	82	82	82	82		
	2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67	67	67	67	67	67		
	3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56	56	56	56	56	56		
	4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47	47	47	47	47	47		
	5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41	41	41	41	41	41		
	6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36	36	36	36	36	36		
	7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31	31	31	31	31	31		
	8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28	28	28	28	28	28		
	9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25	25	25	25	25	25		
	10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23	23	23	23	23	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2746	2746	2746
5°	2751	2735	2751
10°	2735	2727	2749
15°	2712	2717	2752
20°	2678	2699	2749
25°	2637	2680	2747
30°	2587	2657	2744
35°	2536	2631	2746
40°	2478	2611	2763
45°	2419	2594	2786
50°	2347	2587	2828
55°	2288	2591	2885
60°	2199	2614	2984
65°	2098	2641	3092
70°	1987	2722	3264
75°	1772	2839	3565
80°	1512	3007	3643
85°	1078	2979	3487



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.2	3.1
10°-20°	552.3	8.9
20°-30°	834.2	13.5
30°-40°	1005.5	16.2
40°-50°	1055.5	17.1
50°-60°	987.5	16.0
60°-70°	815.5	13.2
70°-80°	555.7	9.0
80°-90°	189.5	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°	1579.7	25.5
0°-40°	2585.2	41.8
0°-60°	4628.3	74.8
0°-90°	6189.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6189.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2041	2041	2041	2041	2041	
5°	2037	2035	2025	2037	2037	193
15°	1947	1949	1951	1971	1975	549
25°	1776	1784	1805	1840	1850	817
35°	1544	1561	1602	1655	1672	965
45°	1271	1298	1364	1437	1464	980
55°	975	1014	1105	1195	1230	871
65°	659	715	830	934	971	654
75°	341	419	546	649	686	363
85°	70	138	193	218	226	87
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2041.1	2041.1	2041.1	2041.1	2041.1
2.5°	2043.1	2041.1	2030.8	2041.1	2039.0
5°	2037.0	2034.9	2024.7	2037.0	2037.0
7.5°	2022.6	2022.6	2012.3	2026.7	2028.8
10°	2002.1	2002.1	1995.9	2012.3	2012.3
12.5°	1977.4	1977.4	1977.4	1993.9	1995.9
15°	1946.6	1948.7	1950.7	1971.3	1975.4
17.5°	1909.7	1913.8	1919.9	1944.6	1948.7
20°	1870.6	1874.8	1885.0	1913.8	1919.9
22.5°	1821.4	1831.6	1846.0	1878.9	1885.0
25°	1776.2	1784.4	1804.9	1839.8	1850.1
27.5°	1720.7	1733.1	1759.8	1796.7	1811.1
30°	1665.3	1677.6	1710.5	1753.6	1765.9
32.5°	1605.8	1624.2	1659.1	1704.3	1718.7
35°	1544.2	1560.6	1601.7	1655.0	1671.5
37.5°	1476.4	1499.0	1544.2	1601.7	1622.2
40°	1410.7	1435.3	1486.7	1548.3	1572.9
42.5°	1345.0	1369.6	1427.1	1496.9	1521.6
45°	1271.1	1297.7	1363.5	1437.4	1464.1
47.5°	1197.1	1230.0	1301.9	1379.9	1408.6
50°	1121.2	1158.1	1236.1	1318.3	1351.1
52.5°	1053.4	1088.3	1170.4	1258.7	1289.5
55°	975.4	1014.4	1104.7	1195.1	1230.0
57.5°	895.3	938.4	1034.9	1133.5	1168.4
60°	817.3	864.5	971.3	1069.8	1108.8
62.5°	741.3	788.5	899.4	1002.1	1041.1
65°	659.1	714.6	829.6	934.3	971.3
67.5°	581.1	640.7	761.8	864.5	901.4
70°	505.1	562.6	692.0	792.6	829.6
72.5°	423.0	488.7	618.1	722.8	761.8
75°	340.9	418.9	546.2	648.9	685.8
77.5°	264.9	345.0	472.3	556.5	575.0
80°	195.1	277.2	388.1	447.6	470.2
82.5°	125.3	207.4	295.7	338.8	357.3
85°	69.8	137.6	193.0	217.7	225.9
87.5°	28.7	59.5	78.0	88.3	88.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)