

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: P314122

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-CA125-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: P314122
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: 24FCZ2-70HE-UNV-L83050-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC 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: 6745.0 lumens
Efficiency: N/A
Efficacy: 114.3 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

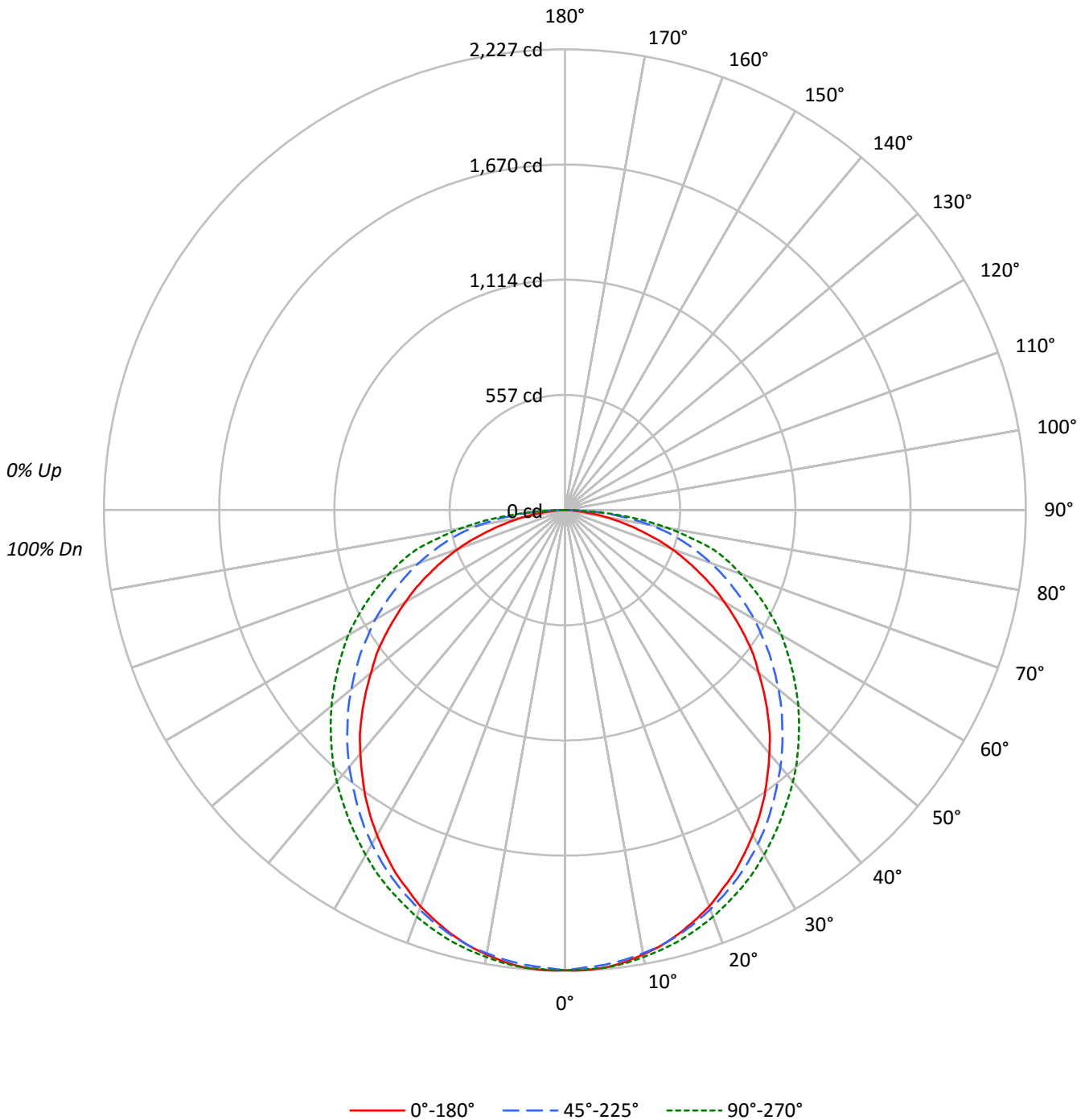
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2993	2993	2993
5°	2998	2980	2998
10°	2981	2972	2996
15°	2955	2961	2999
20°	2919	2942	2996
25°	2874	2920	2993
30°	2820	2896	2990
35°	2764	2867	2992
40°	2700	2846	3011
45°	2636	2827	3036
50°	2558	2820	3082
55°	2494	2824	3145
60°	2397	2848	3252
65°	2287	2878	3370
70°	2166	2967	3557
75°	1931	3095	3885
80°	1647	3278	3971
85°	1175	3248	3801



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.5	3.1
10°-20°	602.0	8.9
20°-30°	909.2	13.5
30°-40°	1095.8	16.2
40°-50°	1150.4	17.1
50°-60°	1076.2	16.0
60°-70°	888.8	13.2
70°-80°	605.6	9.0
80°-90°	206.5	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°	1721.7	25.5
0°-40°	2817.4	41.8
0°-60°	5044.0	74.8
0°-90°	6745.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6745.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2224	2224	2224	2224	2224	
5°	2220	2218	2206	2220	2220	211
15°	2122	2124	2126	2148	2153	598
25°	1936	1945	1967	2005	2016	891
35°	1683	1701	1746	1804	1822	1052
45°	1385	1414	1486	1566	1596	1068
55°	1063	1106	1204	1302	1340	949
65°	718	779	904	1018	1058	713
75°	372	456	595	707	747	396
85°	76	150	210	237	246	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2224.4	2224.4	2224.4	2224.4	2224.4
2.5°	2226.7	2224.4	2213.3	2224.4	2222.2
5°	2220.0	2217.7	2206.5	2220.0	2220.0
7.5°	2204.3	2204.3	2193.1	2208.8	2211.0
10°	2181.9	2181.9	2175.2	2193.1	2193.1
12.5°	2155.1	2155.1	2155.1	2173.0	2175.2
15°	2121.5	2123.7	2126.0	2148.4	2152.8
17.5°	2081.2	2085.7	2092.4	2119.3	2123.7
20°	2038.7	2043.2	2054.4	2085.7	2092.4
22.5°	1985.0	1996.2	2011.8	2047.7	2054.4
25°	1935.8	1944.7	1967.1	2005.1	2016.3
27.5°	1875.3	1888.8	1917.9	1958.1	1973.8
30°	1814.9	1828.3	1864.1	1911.1	1924.6
32.5°	1750.0	1770.2	1808.2	1857.4	1873.1
35°	1682.9	1700.8	1745.5	1803.7	1821.6
37.5°	1609.0	1633.6	1682.9	1745.5	1767.9
40°	1537.4	1564.3	1620.2	1687.4	1714.2
42.5°	1465.8	1492.7	1555.3	1631.4	1658.3
45°	1385.2	1414.3	1485.9	1566.5	1595.6
47.5°	1304.7	1340.5	1418.8	1503.8	1535.2
50°	1221.9	1262.2	1347.2	1436.7	1472.5
52.5°	1148.0	1186.1	1275.6	1371.8	1405.4
55°	1063.0	1105.5	1204.0	1302.4	1340.5
57.5°	975.7	1022.7	1127.9	1235.3	1273.3
60°	890.7	942.1	1058.5	1165.9	1208.4
62.5°	807.9	859.3	980.2	1092.1	1134.6
65°	718.4	778.8	904.1	1018.2	1058.5
67.5°	633.3	698.2	830.2	942.1	982.4
70°	550.5	613.2	754.2	863.8	904.1
72.5°	461.0	532.6	673.6	787.7	830.2
75°	371.5	456.5	595.3	707.2	747.4
77.5°	288.7	376.0	514.7	606.5	626.6
80°	212.6	302.1	423.0	487.9	512.5
82.5°	136.5	226.0	322.3	369.2	389.4
85°	76.1	149.9	210.4	237.2	246.2
87.5°	31.3	64.9	85.0	96.2	96.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)