

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: P314492

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-CA08-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: P314492
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" 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: 7112.0 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

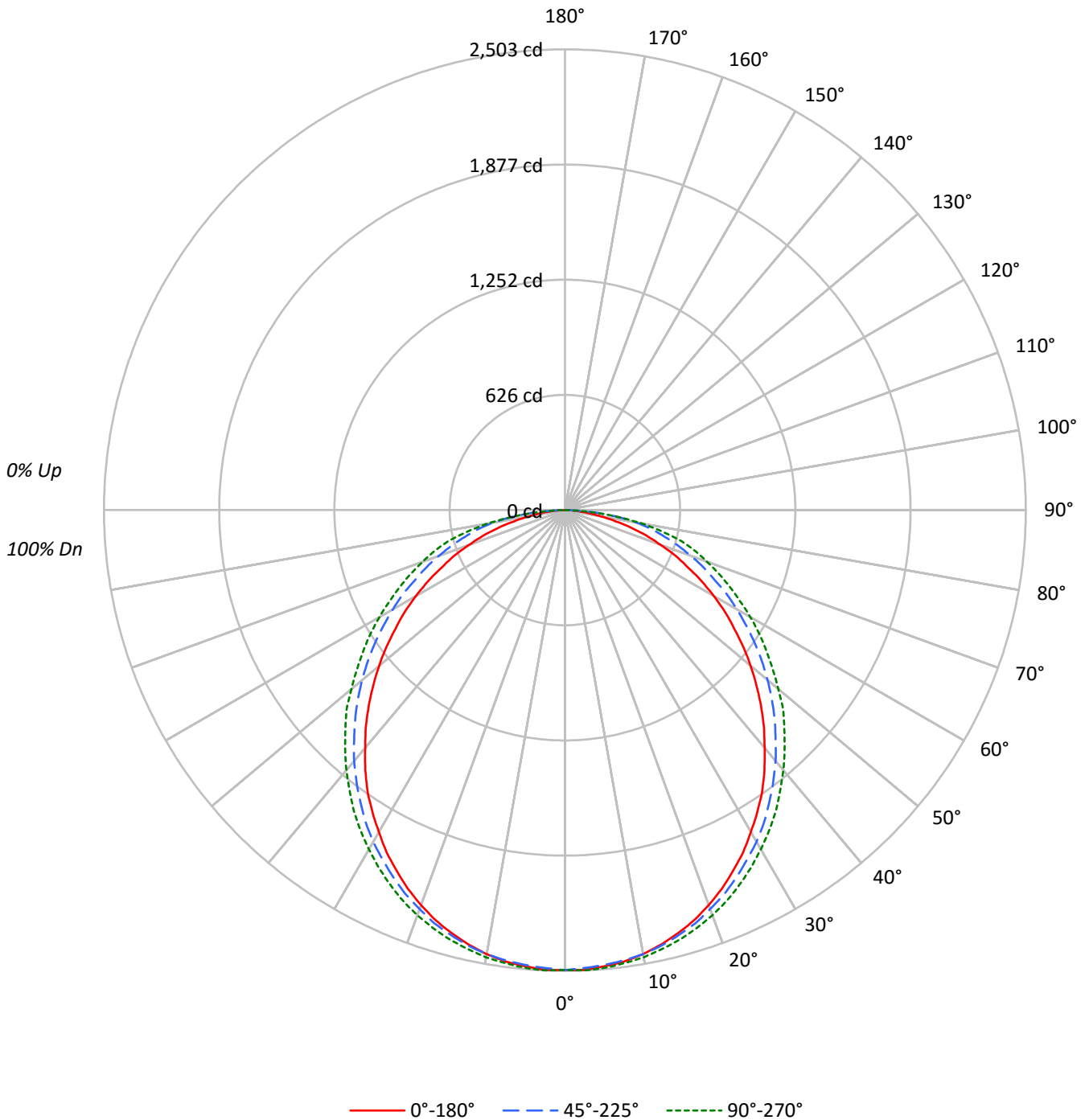
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3362	3362	3362
5°	3359	3350	3371
10°	3346	3346	3370
15°	3314	3329	3364
20°	3270	3303	3354
25°	3210	3270	3334
30°	3138	3232	3306
35°	3069	3180	3280
40°	2964	3127	3242
45°	2867	3065	3207
50°	2757	3007	3168
55°	2634	2952	3137
60°	2511	2906	3131
65°	2352	2855	3150
70°	2177	2871	3235
75°	1949	2924	3418
80°	1575	3098	3343
85°	1186	2720	2651



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	236.5	3.3
10°-20°	675.9	9.5
20°-30°	1016.0	14.3
30°-40°	1210.2	17.0
40°-50°	1238.6	17.4
50°-60°	1115.1	15.7
60°-70°	875.7	12.3
70°-80°	568.3	8.0
80°-90°	175.8	2.5
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°	1928.4	27.1
0°-40°	3138.6	44.1
0°-60°	5492.2	77.2
0°-90°	7112.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7112.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2498	2498	2498	2498	2498	
5°	2487	2492	2480	2494	2496	236
15°	2379	2386	2390	2410	2415	671
25°	2162	2180	2203	2239	2246	996
35°	1868	1891	1936	1983	1997	1165
45°	1507	1543	1611	1672	1685	1162
55°	1123	1172	1258	1324	1337	1007
65°	739	795	897	971	990	735
75°	375	447	562	639	657	397
85°	77	142	176	172	172	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2498.5	2498.5	2498.5	2498.5	2498.5
2.5°	2500.8	2500.8	2489.5	2500.8	2503.0
5°	2487.2	2491.7	2480.4	2494.0	2496.2
7.5°	2473.6	2473.6	2466.9	2480.4	2482.7
10°	2448.8	2451.1	2448.8	2464.6	2466.9
12.5°	2417.2	2421.7	2423.9	2439.8	2442.0
15°	2378.8	2385.5	2390.1	2410.4	2414.9
17.5°	2335.8	2342.6	2353.9	2376.5	2381.0
20°	2283.9	2292.9	2306.5	2335.8	2342.6
22.5°	2227.4	2236.4	2259.0	2286.1	2297.4
25°	2161.9	2180.0	2202.6	2238.7	2245.5
27.5°	2096.4	2112.2	2141.6	2180.0	2189.0
30°	2019.6	2044.4	2080.6	2119.0	2128.0
32.5°	1945.0	1969.9	2012.8	2053.5	2064.8
35°	1868.2	1890.8	1936.0	1983.4	1997.0
37.5°	1780.1	1809.5	1859.2	1906.6	1920.2
40°	1687.5	1723.6	1780.1	1829.8	1845.6
42.5°	1599.4	1637.8	1694.3	1748.5	1766.6
45°	1506.8	1542.9	1610.7	1671.7	1685.2
47.5°	1411.9	1452.6	1524.8	1585.8	1608.4
50°	1317.0	1359.9	1436.7	1500.0	1513.6
52.5°	1222.1	1267.3	1348.6	1416.4	1423.2
55°	1122.7	1172.4	1258.3	1323.8	1337.3
57.5°	1032.4	1075.3	1167.9	1235.7	1251.5
60°	933.0	980.4	1079.8	1143.1	1163.4
62.5°	838.1	887.8	991.7	1055.0	1073.0
65°	738.7	795.2	896.8	971.4	989.5
67.5°	652.9	707.1	815.5	887.8	905.9
70°	553.5	614.5	729.7	804.2	822.3
72.5°	467.6	530.9	646.1	718.4	745.5
75°	375.0	447.3	562.5	639.3	657.4
77.5°	284.6	368.2	485.7	544.4	544.4
80°	203.3	291.4	399.8	427.0	431.5
82.5°	133.3	219.1	295.9	293.7	293.7
85°	76.8	142.3	176.2	171.7	171.7
87.5°	29.4	58.7	63.3	63.3	61.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)