

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: P314503

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-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: P314503
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-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 7015.0 lumens
Efficiency: N/A
Efficacy: 116.0 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

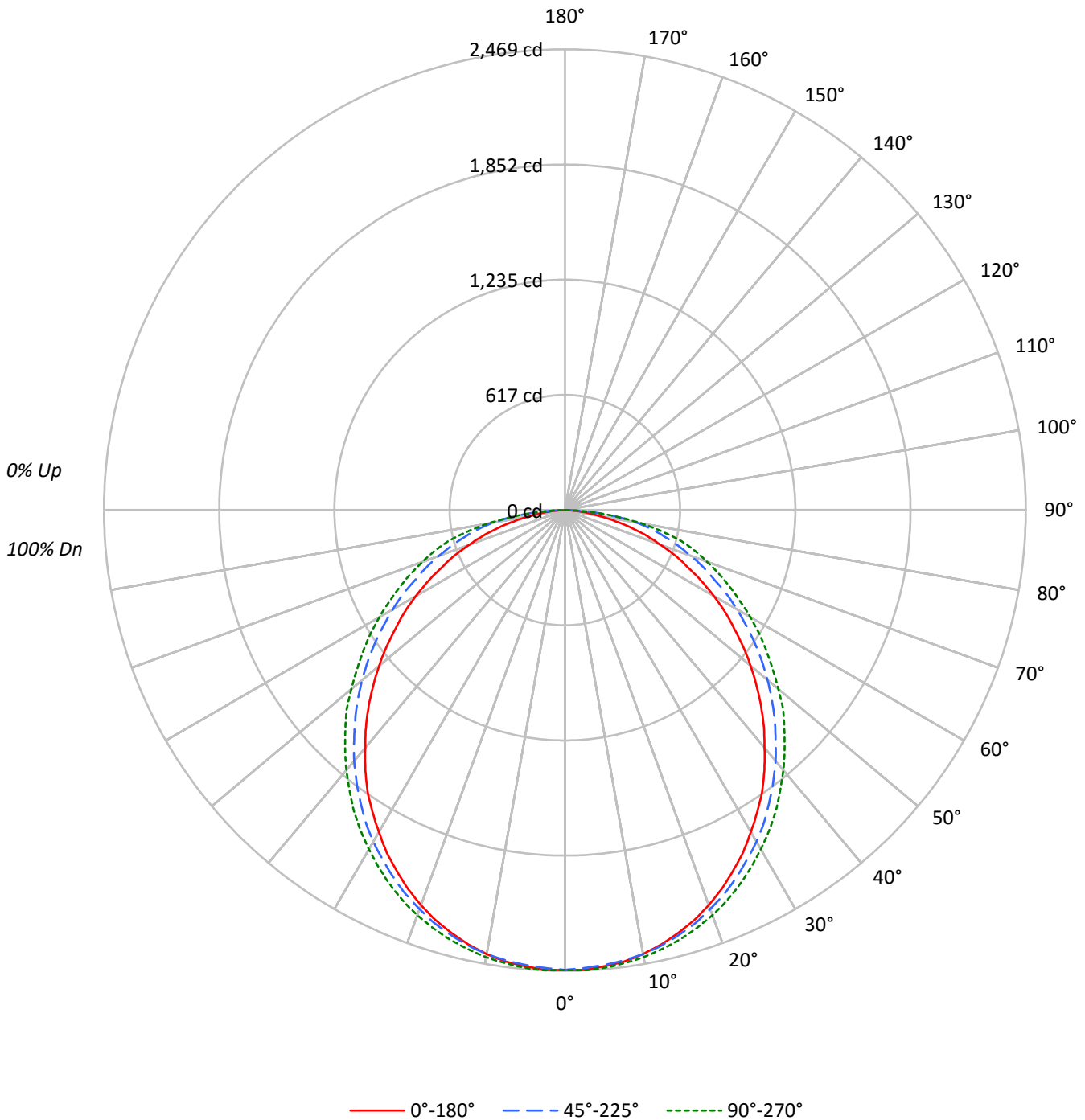
Input Watts (W): 60.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83				83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69				69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58				58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49				49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42				42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37				37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33				33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29				29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26				26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24				24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3316	3316	3316
5°	3313	3304	3326
10°	3300	3300	3324
15°	3268	3284	3318
20°	3226	3257	3309
25°	3166	3225	3288
30°	3095	3188	3261
35°	3027	3137	3235
40°	2924	3084	3198
45°	2828	3023	3163
50°	2719	2966	3125
55°	2598	2911	3094
60°	2477	2866	3088
65°	2320	2816	3107
70°	2148	2831	3191
75°	1923	2884	3371
80°	1554	3056	3298
85°	1170	2683	2614



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.3	3.3
10°-20°	666.6	9.5
20°-30°	1002.1	14.3
30°-40°	1193.7	17.0
40°-50°	1221.7	17.4
50°-60°	1099.9	15.7
60°-70°	863.7	12.3
70°-80°	560.6	8.0
80°-90°	173.4	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°	1902.1	27.1
0°-40°	3095.7	44.1
0°-60°	5417.3	77.2
0°-90°	7015.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7015.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2464	2464	2464	2464	2464	
5°	2453	2458	2447	2460	2462	233
15°	2346	2353	2358	2378	2382	662
25°	2132	2150	2172	2208	2215	982
35°	1843	1865	1910	1956	1970	1150
45°	1486	1522	1589	1649	1662	1146
55°	1107	1156	1241	1306	1319	993
65°	729	784	885	958	976	725
75°	370	441	555	631	648	391
85°	76	140	174	169	169	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2464.4	2464.4	2464.4	2464.4	2464.4
2.5°	2466.6	2466.6	2455.5	2466.6	2468.9
5°	2453.3	2457.7	2446.6	2460.0	2462.2
7.5°	2439.9	2439.9	2433.2	2446.6	2448.8
10°	2415.4	2417.6	2415.4	2431.0	2433.2
12.5°	2384.2	2388.7	2390.9	2406.5	2408.7
15°	2346.3	2353.0	2357.5	2377.5	2382.0
17.5°	2304.0	2310.7	2321.8	2344.1	2348.5
20°	2252.7	2261.6	2275.0	2304.0	2310.7
22.5°	2197.0	2205.9	2228.2	2255.0	2266.1
25°	2132.4	2150.2	2172.5	2208.2	2214.9
27.5°	2067.8	2083.4	2112.4	2150.2	2159.1
30°	1992.0	2016.5	2052.2	2090.1	2099.0
32.5°	1918.5	1943.0	1985.3	2025.5	2036.6
35°	1842.7	1865.0	1909.6	1956.4	1969.7
37.5°	1755.8	1784.8	1833.8	1880.6	1894.0
40°	1664.5	1700.1	1755.8	1804.9	1820.5
42.5°	1577.6	1615.5	1671.2	1724.6	1742.5
45°	1486.2	1521.9	1588.7	1648.9	1662.3
47.5°	1392.6	1432.7	1504.1	1564.2	1586.5
50°	1299.1	1341.4	1417.2	1479.5	1492.9
52.5°	1205.5	1250.0	1330.2	1397.1	1403.8
55°	1107.4	1156.4	1241.1	1305.7	1319.1
57.5°	1018.3	1060.6	1152.0	1218.8	1234.4
60°	920.3	967.0	1065.1	1127.5	1147.5
62.5°	826.7	875.7	978.2	1040.6	1058.4
65°	728.6	784.3	884.6	958.1	976.0
67.5°	644.0	697.4	804.4	875.7	893.5
70°	545.9	606.1	719.7	793.2	811.1
72.5°	461.2	523.6	637.3	708.6	735.3
75°	369.9	441.2	554.8	630.6	648.4
77.5°	280.8	363.2	479.1	537.0	537.0
80°	200.5	287.4	394.4	421.1	425.6
82.5°	131.5	216.1	291.9	289.7	289.7
85°	75.8	140.4	173.8	169.3	169.3
87.5°	29.0	57.9	62.4	62.4	60.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)