

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: P311776

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP125-W2A-U-6500K**

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: P311776
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-L82765-S-CP125-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 6500K 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: 6918.0 lumens
Efficiency: N/A
Efficacy: 114.7 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

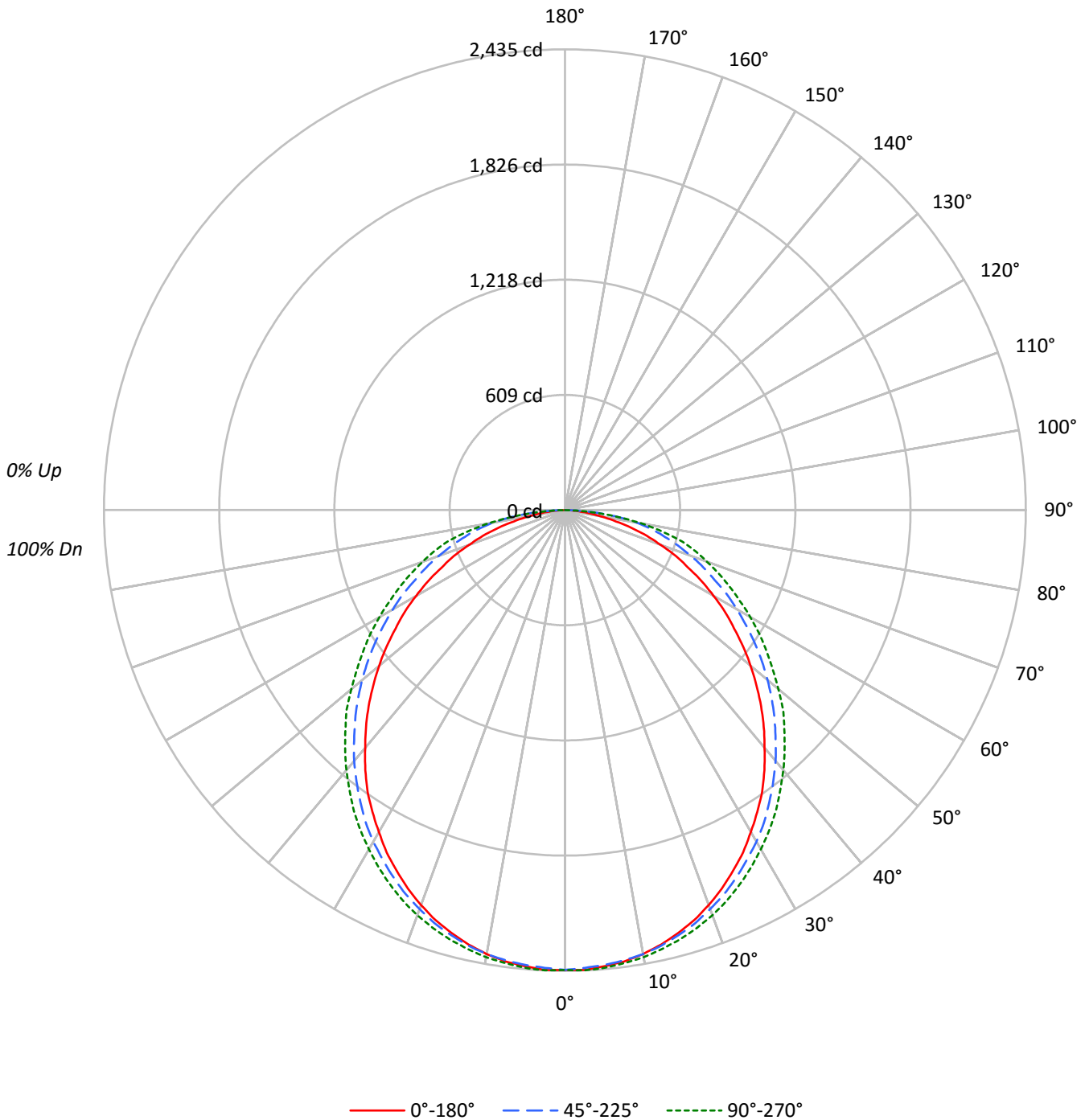
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3270	3270	3270
5°	3268	3259	3279
10°	3254	3254	3278
15°	3223	3238	3272
20°	3181	3212	3263
25°	3122	3181	3243
30°	3052	3144	3216
35°	2985	3093	3191
40°	2883	3041	3153
45°	2789	2981	3119
50°	2682	2925	3082
55°	2562	2871	3052
60°	2442	2827	3045
65°	2288	2777	3064
70°	2118	2792	3147
75°	1896	2845	3324
80°	1533	3013	3252
85°	1153	2646	2578



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.1	3.3
10°-20°	657.4	9.5
20°-30°	988.3	14.3
30°-40°	1177.2	17.0
40°-50°	1204.8	17.4
50°-60°	1084.7	15.7
60°-70°	851.8	12.3
70°-80°	552.9	8.0
80°-90°	171.0	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°	1875.8	27.1
0°-40°	3052.9	44.1
0°-60°	5342.4	77.2
0°-90°	6918.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6918.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2430	2430	2430	2430	2430	
5°	2419	2424	2413	2426	2428	230
15°	2314	2320	2325	2345	2349	652
25°	2103	2120	2142	2178	2184	969
35°	1817	1839	1883	1929	1942	1134
45°	1466	1501	1567	1626	1639	1130
55°	1092	1140	1224	1288	1301	979
65°	719	774	872	945	962	715
75°	365	435	547	622	639	386
85°	75	138	171	167	167	90
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2430.3	2430.3	2430.3	2430.3	2430.3
2.5°	2432.5	2432.5	2421.5	2432.5	2434.7
5°	2419.4	2423.7	2412.8	2425.9	2428.1
7.5°	2406.2	2406.2	2399.6	2412.8	2415.0
10°	2382.0	2384.2	2382.0	2397.4	2399.6
12.5°	2351.2	2355.6	2357.8	2373.2	2375.4
15°	2313.9	2320.5	2324.9	2344.6	2349.0
17.5°	2272.1	2278.7	2289.7	2311.7	2316.1
20°	2221.6	2230.4	2243.6	2272.1	2278.7
22.5°	2166.6	2175.4	2197.4	2223.8	2234.8
25°	2102.9	2120.5	2142.5	2177.6	2184.2
27.5°	2039.2	2054.6	2083.1	2120.5	2129.3
30°	1964.5	1988.7	2023.8	2061.2	2070.0
32.5°	1892.0	1916.1	1957.9	1997.4	2008.4
35°	1817.3	1839.2	1883.2	1929.3	1942.5
37.5°	1731.6	1760.1	1808.5	1854.6	1867.8
40°	1641.5	1676.6	1731.6	1779.9	1795.3
42.5°	1555.8	1593.1	1648.1	1700.8	1718.4
45°	1465.7	1500.8	1566.8	1626.1	1639.3
47.5°	1373.4	1412.9	1483.3	1542.6	1564.6
50°	1281.1	1322.8	1397.6	1459.1	1472.3
52.5°	1188.8	1232.7	1311.9	1377.8	1384.4
55°	1092.1	1140.5	1224.0	1287.7	1300.9
57.5°	1004.2	1046.0	1136.1	1202.0	1217.4
60°	907.5	953.7	1050.4	1111.9	1131.7
62.5°	815.2	863.6	964.7	1026.2	1043.8
65°	718.6	773.5	872.4	944.9	962.5
67.5°	635.1	687.8	793.3	863.6	881.2
70°	538.4	597.7	709.8	782.3	799.9
72.5°	454.9	516.4	628.5	698.8	725.1
75°	364.8	435.1	547.2	621.9	639.4
77.5°	276.9	358.2	472.4	529.6	529.6
80°	197.8	283.5	388.9	415.3	419.7
82.5°	129.6	213.1	287.9	285.7	285.7
85°	74.7	138.4	171.4	167.0	167.0
87.5°	28.6	57.1	61.5	61.5	59.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)