

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: P311828

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-S-CP187-W2A-U-5500K**

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: P311828
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: 24FCZ2-75HE-UNV-L82765-S-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 7046.0 lumens
Efficiency: N/A
Efficacy: 109.1 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

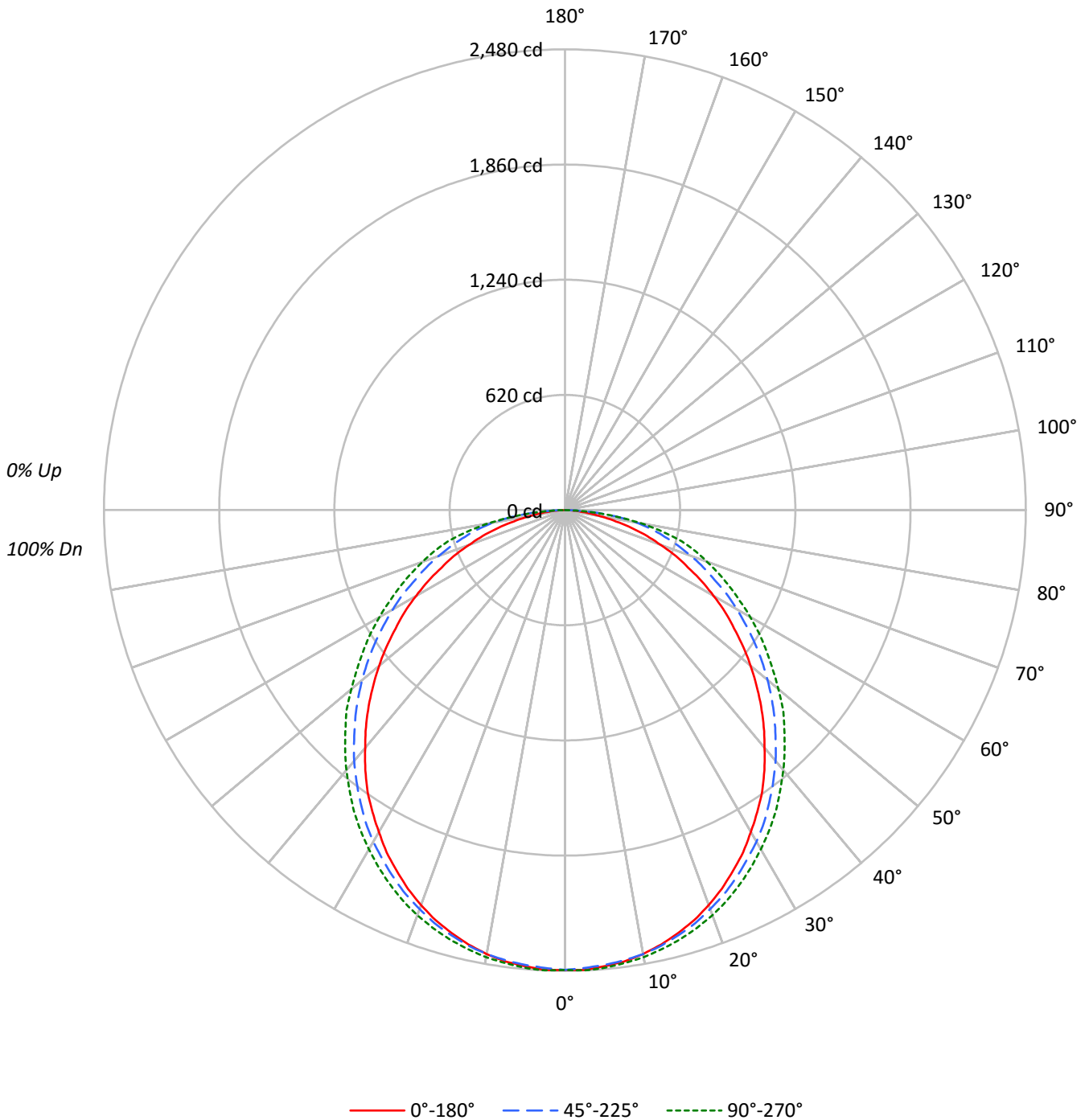
Input Watts (W): 64.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3330	3330	3330
5°	3328	3319	3340
10°	3315	3315	3339
15°	3283	3298	3333
20°	3240	3272	3323
25°	3180	3240	3303
30°	3109	3203	3276
35°	3040	3150	3250
40°	2936	3098	3212
45°	2841	3036	3177
50°	2731	2979	3139
55°	2609	2924	3108
60°	2487	2879	3102
65°	2330	2829	3121
70°	2157	2844	3205
75°	1931	2897	3386
80°	1561	3069	3312
85°	1175	2695	2626



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.3	3.3
10°-20°	669.6	9.5
20°-30°	1006.5	14.3
30°-40°	1199.0	17.0
40°-50°	1227.1	17.4
50°-60°	1104.7	15.7
60°-70°	867.6	12.3
70°-80°	563.1	8.0
80°-90°	174.1	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°	1910.5	27.1
0°-40°	3109.4	44.1
0°-60°	5441.2	77.2
0°-90°	7046.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7046.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2475	2475	2475	2475	2475	
5°	2464	2469	2457	2471	2473	234
15°	2357	2363	2368	2388	2392	665
25°	2142	2160	2182	2218	2225	987
35°	1851	1873	1918	1965	1978	1155
45°	1493	1529	1596	1656	1670	1151
55°	1112	1162	1247	1312	1325	997
65°	732	788	888	962	980	729
75°	372	443	557	633	651	393
85°	76	141	175	170	170	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2475.3	2475.3	2475.3	2475.3	2475.3
2.5°	2477.5	2477.5	2466.4	2477.5	2479.8
5°	2464.1	2468.6	2457.4	2470.8	2473.1
7.5°	2450.7	2450.7	2444.0	2457.4	2459.6
10°	2426.1	2428.3	2426.1	2441.7	2444.0
12.5°	2394.7	2399.2	2401.4	2417.1	2419.4
15°	2356.7	2363.4	2367.9	2388.0	2392.5
17.5°	2314.2	2320.9	2332.1	2354.5	2358.9
20°	2262.7	2271.6	2285.1	2314.2	2320.9
22.5°	2206.7	2215.7	2238.1	2264.9	2276.1
25°	2141.8	2159.7	2182.1	2217.9	2224.6
27.5°	2076.9	2092.6	2121.7	2159.7	2168.7
30°	2000.8	2025.5	2061.3	2099.3	2108.3
32.5°	1927.0	1951.6	1994.1	2034.4	2045.6
35°	1850.9	1873.3	1918.0	1965.0	1978.5
37.5°	1763.6	1792.7	1841.9	1888.9	1902.4
40°	1671.8	1707.6	1763.6	1812.8	1828.5
42.5°	1584.6	1622.6	1678.6	1732.3	1750.2
45°	1492.8	1528.6	1595.7	1656.2	1669.6
47.5°	1398.8	1439.1	1510.7	1571.1	1593.5
50°	1304.8	1347.3	1423.4	1486.1	1499.5
52.5°	1210.8	1255.6	1336.1	1403.3	1410.0
55°	1112.3	1161.6	1246.6	1311.5	1324.9
57.5°	1022.8	1065.3	1157.1	1224.2	1239.9
60°	924.3	971.3	1069.8	1132.5	1152.6
62.5°	830.3	879.6	982.5	1045.2	1063.1
65°	731.8	787.8	888.5	962.4	980.3
67.5°	646.8	700.5	807.9	879.6	897.5
70°	548.3	608.8	722.9	796.8	814.7
72.5°	463.3	525.9	640.1	711.7	738.6
75°	371.5	443.1	557.3	633.4	651.3
77.5°	282.0	364.8	481.2	539.4	539.4
80°	201.4	288.7	396.1	423.0	427.5
82.5°	132.0	217.1	293.2	290.9	290.9
85°	76.1	141.0	174.6	170.1	170.1
87.5°	29.1	58.2	62.7	62.7	60.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)