

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: P311829

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-S-CP187-W2A-U-5700K**

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: P311829
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-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5700K 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: 7065.0 lumens
Efficiency: N/A
Efficacy: 109.4 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

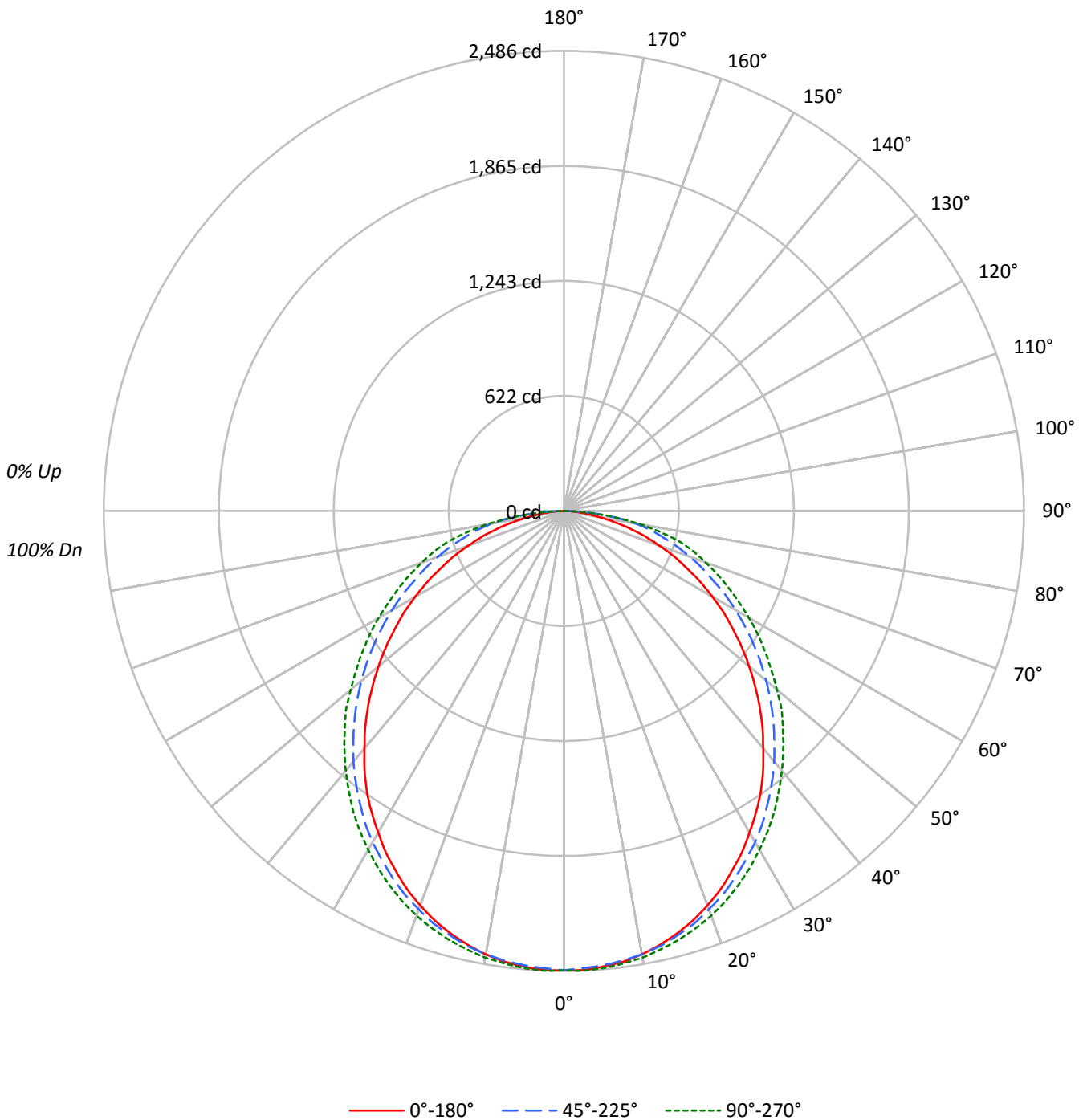
Input Watts (W): 64.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3340	3340	3340
5°	3337	3328	3349
10°	3324	3324	3348
15°	3292	3307	3342
20°	3249	3281	3332
25°	3188	3248	3312
30°	3117	3211	3284
35°	3048	3159	3258
40°	2944	3106	3220
45°	2848	3044	3185
50°	2739	2988	3147
55°	2616	2932	3116
60°	2494	2887	3110
65°	2336	2836	3129
70°	2163	2851	3214
75°	1936	2905	3395
80°	1565	3078	3321
85°	1178	2702	2634



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	235.0	3.3
10°-20°	671.4	9.5
20°-30°	1009.3	14.3
30°-40°	1202.2	17.0
40°-50°	1230.4	17.4
50°-60°	1107.7	15.7
60°-70°	869.9	12.3
70°-80°	564.6	8.0
80°-90°	174.6	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°	1915.6	27.1
0°-40°	3117.8	44.1
0°-60°	5455.9	77.2
0°-90°	7065.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7065.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2482	2482	2482	2482	2482	
5°	2471	2475	2464	2478	2480	235
15°	2363	2370	2374	2394	2399	666
25°	2148	2166	2188	2224	2231	989
35°	1856	1878	1923	1970	1984	1158
45°	1497	1533	1600	1661	1674	1154
55°	1115	1165	1250	1315	1328	1000
65°	734	790	891	965	983	730
75°	372	444	559	635	653	394
85°	76	141	175	171	171	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2482.0	2482.0	2482.0	2482.0	2482.0
2.5°	2484.2	2484.2	2473.0	2484.2	2486.5
5°	2470.8	2475.2	2464.0	2477.5	2479.7
7.5°	2457.3	2457.3	2450.6	2464.0	2466.3
10°	2432.6	2434.9	2432.6	2448.3	2450.6
12.5°	2401.2	2405.7	2407.9	2423.6	2425.9
15°	2363.0	2369.8	2374.3	2394.5	2398.9
17.5°	2320.4	2327.1	2338.4	2360.8	2365.3
20°	2268.8	2277.8	2291.2	2320.4	2327.1
22.5°	2212.7	2221.7	2244.1	2271.0	2282.3
25°	2147.6	2165.6	2188.0	2223.9	2230.6
27.5°	2082.5	2098.2	2127.4	2165.6	2174.5
30°	2006.2	2030.9	2066.8	2105.0	2113.9
32.5°	1932.2	1956.9	1999.5	2039.9	2051.1
35°	1855.9	1878.3	1923.2	1970.3	1983.8
37.5°	1768.4	1797.5	1846.9	1894.0	1907.5
40°	1676.3	1712.3	1768.4	1817.7	1833.4
42.5°	1588.8	1627.0	1683.1	1736.9	1754.9
45°	1496.8	1532.7	1600.0	1660.6	1674.1
47.5°	1402.6	1443.0	1514.8	1575.4	1597.8
50°	1308.3	1351.0	1427.3	1490.1	1503.6
52.5°	1214.1	1258.9	1339.7	1407.1	1413.8
55°	1115.3	1164.7	1250.0	1315.0	1328.5
57.5°	1025.6	1068.2	1160.2	1227.5	1243.2
60°	926.8	973.9	1072.7	1135.5	1155.7
62.5°	832.6	881.9	985.2	1048.0	1066.0
65°	733.8	789.9	890.9	965.0	982.9
67.5°	648.5	702.4	810.1	881.9	899.9
70°	549.8	610.4	724.8	798.9	816.9
72.5°	464.5	527.4	641.8	713.6	740.6
75°	372.5	444.3	558.8	635.1	653.0
77.5°	282.8	365.8	482.5	540.8	540.8
80°	202.0	289.5	397.2	424.1	428.6
82.5°	132.4	217.7	294.0	291.7	291.7
85°	76.3	141.4	175.0	170.6	170.6
87.5°	29.2	58.3	62.8	62.8	60.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)