

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: P311758

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CA08-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: P311758
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-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 7080.0 lumens
Efficiency: N/A
Efficacy: 117.4 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

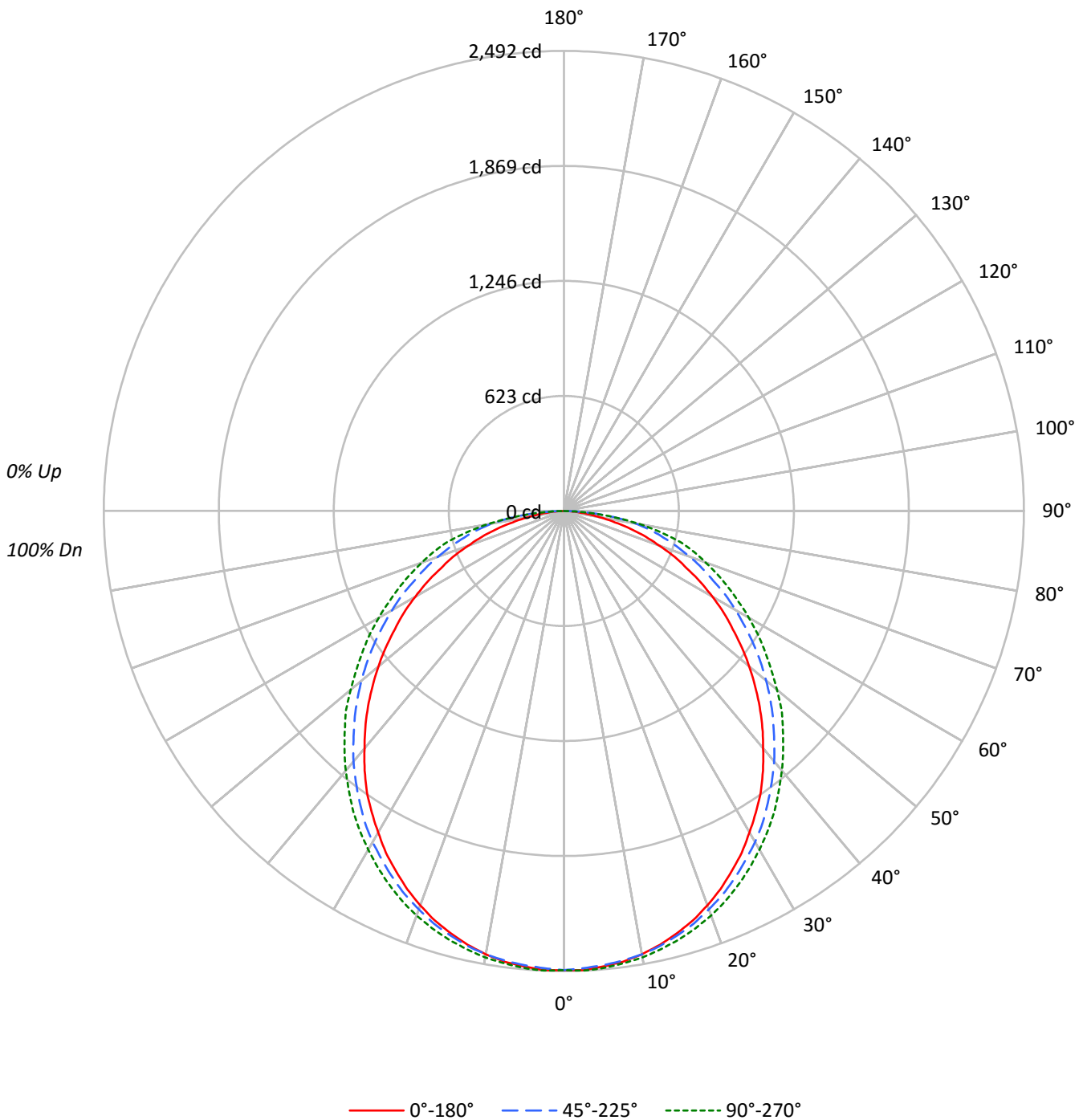
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3347	3347	3347
5°	3344	3335	3356
10°	3331	3331	3355
15°	3299	3314	3349
20°	3255	3288	3339
25°	3195	3255	3319
30°	3124	3218	3291
35°	3055	3166	3265
40°	2951	3113	3227
45°	2854	3051	3192
50°	2744	2994	3154
55°	2622	2938	3123
60°	2499	2893	3117
65°	2341	2842	3136
70°	2168	2858	3220
75°	1941	2911	3402
80°	1568	3084	3328
85°	1181	2708	2638



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	235.5	3.3
10°-20°	672.8	9.5
20°-30°	1011.4	14.3
30°-40°	1204.7	17.0
40°-50°	1233.0	17.4
50°-60°	1110.1	15.7
60°-70°	871.7	12.3
70°-80°	565.8	8.0
80°-90°	175.0	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°	1919.7	27.1
0°-40°	3124.4	44.1
0°-60°	5467.5	77.2
0°-90°	7080.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7080.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2487	2487	2487	2487	2487	
5°	2476	2480	2469	2483	2485	235
15°	2368	2375	2379	2400	2404	668
25°	2152	2170	2193	2229	2235	991
35°	1860	1882	1927	1974	1988	1160
45°	1500	1536	1603	1664	1678	1156
55°	1118	1167	1253	1318	1331	1002
65°	735	792	893	967	985	732
75°	373	445	560	636	654	395
85°	76	142	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°	2487.3	2487.3	2487.3	2487.3	2487.3
2.5°	2489.5	2489.5	2478.3	2489.5	2491.7
5°	2476.0	2480.5	2469.3	2482.8	2485.0
7.5°	2462.5	2462.5	2455.8	2469.3	2471.5
10°	2437.8	2440.0	2437.8	2453.5	2455.8
12.5°	2406.3	2410.8	2413.0	2428.8	2431.0
15°	2368.1	2374.8	2379.3	2399.5	2404.0
17.5°	2325.3	2332.1	2343.3	2365.8	2370.3
20°	2273.6	2282.6	2296.1	2325.3	2332.1
22.5°	2217.4	2226.4	2248.9	2275.9	2287.1
25°	2152.2	2170.2	2192.6	2228.6	2235.4
27.5°	2087.0	2102.7	2131.9	2170.2	2179.2
30°	2010.5	2035.2	2071.2	2109.4	2118.4
32.5°	1936.3	1961.0	2003.7	2044.2	2055.5
35°	1859.8	1882.3	1927.3	1974.5	1988.0
37.5°	1772.1	1801.3	1850.8	1898.0	1911.5
40°	1679.9	1715.9	1772.1	1821.6	1837.3
42.5°	1592.2	1630.4	1686.7	1740.6	1758.6
45°	1500.0	1536.0	1603.4	1664.2	1677.7
47.5°	1405.5	1446.0	1518.0	1578.7	1601.2
50°	1311.1	1353.8	1430.3	1493.2	1506.7
52.5°	1216.6	1261.6	1342.6	1410.0	1416.8
55°	1117.7	1167.2	1252.6	1317.8	1331.3
57.5°	1027.7	1070.5	1162.7	1230.1	1245.9
60°	928.8	976.0	1075.0	1137.9	1158.2
62.5°	834.3	883.8	987.3	1050.2	1068.2
65°	735.4	791.6	892.8	967.0	985.0
67.5°	649.9	703.9	811.8	883.8	901.8
70°	551.0	611.7	726.4	800.6	818.6
72.5°	465.5	528.5	643.2	715.1	742.1
75°	373.3	445.3	560.0	636.4	654.4
77.5°	283.4	366.6	483.5	542.0	542.0
80°	202.4	290.1	398.0	425.0	429.5
82.5°	132.7	218.1	294.6	292.4	292.4
85°	76.5	141.7	175.4	170.9	170.9
87.5°	29.2	58.5	63.0	63.0	60.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)