

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: P311710

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CA08-W2A-U-5000K**

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: P311710
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: 24FCZ2-65HE-UNV-L82765-S-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K 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: 6465.0 lumens
Efficiency: N/A
Efficacy: 120.2 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

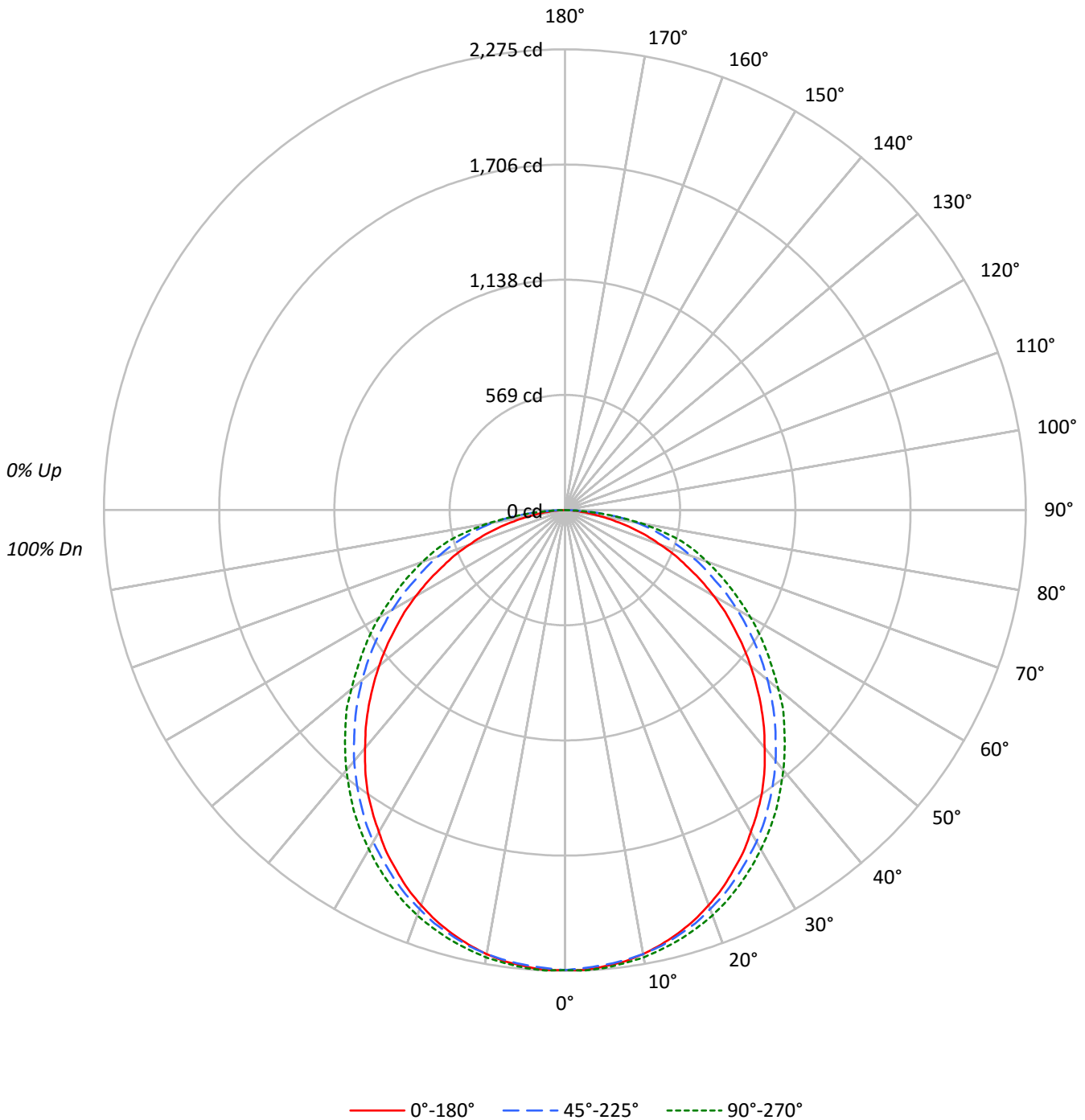
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3056	3056	3056
5°	3054	3045	3065
10°	3041	3041	3064
15°	3012	3026	3058
20°	2973	3002	3049
25°	2918	2972	3030
30°	2852	2938	3005
35°	2790	2891	2982
40°	2694	2842	2947
45°	2606	2786	2915
50°	2506	2734	2880
55°	2394	2683	2852
60°	2282	2641	2846
65°	2138	2595	2863
70°	1979	2609	2941
75°	1772	2658	3107
80°	1432	2817	3039
85°	1078	2473	2410



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.0	3.3
10°-20°	614.4	9.5
20°-30°	923.5	14.3
30°-40°	1100.1	17.0
40°-50°	1125.9	17.4
50°-60°	1013.6	15.7
60°-70°	796.0	12.3
70°-80°	516.6	8.0
80°-90°	159.8	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°	1752.9	27.1
0°-40°	2853.0	44.1
0°-60°	4992.6	77.2
0°-90°	6465.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6465.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2271	2271	2271	2271	2271	
5°	2261	2265	2255	2267	2269	215
15°	2162	2168	2173	2191	2195	610
25°	1965	1982	2002	2035	2041	905
35°	1698	1719	1760	1803	1815	1059
45°	1370	1403	1464	1520	1532	1056
55°	1021	1066	1144	1203	1216	915
65°	672	723	815	883	899	668
75°	341	407	511	581	598	361
85°	70	129	160	156	156	84
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2271.2	2271.2	2271.2	2271.2	2271.2
2.5°	2273.3	2273.3	2263.0	2273.3	2275.3
5°	2260.9	2265.0	2254.8	2267.1	2269.1
7.5°	2248.6	2248.6	2242.4	2254.8	2256.8
10°	2226.0	2228.1	2226.0	2240.4	2242.4
12.5°	2197.3	2201.4	2203.4	2217.8	2219.9
15°	2162.4	2168.5	2172.6	2191.1	2195.2
17.5°	2123.3	2129.5	2139.8	2160.3	2164.4
20°	2076.1	2084.3	2096.6	2123.3	2129.5
22.5°	2024.8	2033.0	2053.5	2078.2	2088.4
25°	1965.2	1981.6	2002.2	2035.0	2041.2
27.5°	1905.7	1920.0	1946.7	1981.6	1989.9
30°	1835.8	1858.4	1891.3	1926.2	1934.4
32.5°	1768.1	1790.7	1829.7	1866.7	1876.9
35°	1698.3	1718.8	1759.9	1803.0	1815.3
37.5°	1618.2	1644.9	1690.0	1733.2	1745.5
40°	1534.0	1566.8	1618.2	1663.4	1677.7
42.5°	1453.9	1488.8	1540.1	1589.4	1605.9
45°	1369.7	1402.6	1464.2	1519.6	1531.9
47.5°	1283.5	1320.4	1386.1	1441.6	1462.1
50°	1197.2	1236.2	1306.0	1363.5	1375.9
52.5°	1111.0	1152.0	1226.0	1287.6	1293.7
55°	1020.6	1065.8	1143.8	1203.4	1215.7
57.5°	938.5	977.5	1061.7	1123.3	1137.7
60°	848.1	891.2	981.6	1039.1	1057.6
62.5°	761.9	807.0	901.5	959.0	975.4
65°	671.5	722.8	815.2	883.0	899.4
67.5°	593.5	642.8	741.3	807.0	823.5
70°	503.1	558.6	663.3	731.1	747.5
72.5°	425.1	482.6	587.3	653.0	677.7
75°	340.9	406.6	511.3	581.1	597.6
77.5°	258.7	334.7	441.5	494.9	494.9
80°	184.8	264.9	363.5	388.1	392.2
82.5°	121.2	199.2	269.0	267.0	267.0
85°	69.8	129.4	160.2	156.1	156.1
87.5°	26.7	53.4	57.5	57.5	55.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)