

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: P311708

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CA08-W2A-U-4000K**

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: P311708
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4000K 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

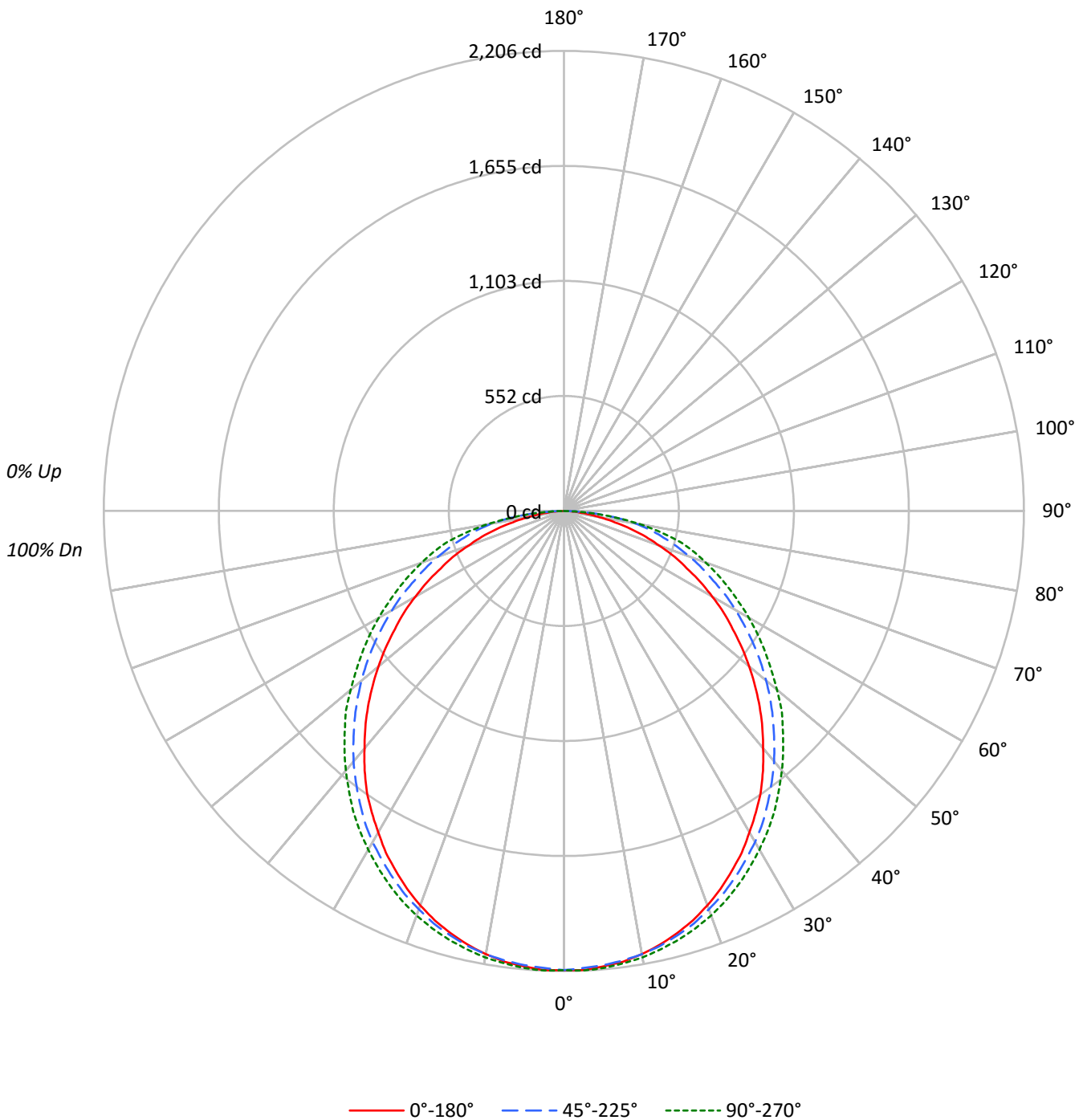
Lumens per Lamp: N/A
Luminaire Lumens: 6267.0 lumens
Efficiency: N/A
Efficacy: 117.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 53.2
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



TEST NUMBER: P311708
CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-S-CA08-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P311708

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-S-CA08-W2A-U-4000K

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°	2962	2962	2962
5°	2960	2952	2971
10°	2948	2948	2970
15°	2920	2934	2964
20°	2882	2910	2956
25°	2828	2881	2938
30°	2765	2848	2913
35°	2704	2802	2890
40°	2612	2755	2856
45°	2527	2701	2826
50°	2429	2650	2792
55°	2321	2601	2765
60°	2212	2560	2759
65°	2072	2516	2776
70°	1919	2530	2851
75°	1718	2577	3012
80°	1389	2730	2946
85°	1045	2397	2336



TEST NUMBER: P311708

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-S-CA08-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.4	3.3
10°-20°	595.6	9.5
20°-30°	895.3	14.3
30°-40°	1066.4	17.0
40°-50°	1091.4	17.4
50°-60°	982.6	15.7
60°-70°	771.6	12.3
70°-80°	500.8	8.0
80°-90°	154.9	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°	1699.2	27.1
0°-40°	2765.7	44.1
0°-60°	4839.6	77.2
0°-90°	6267.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6267.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2202	2202	2202	2202	2202	
5°	2192	2196	2186	2198	2200	208
15°	2096	2102	2106	2124	2128	591
25°	1905	1921	1941	1973	1979	878
35°	1646	1666	1706	1748	1760	1027
45°	1328	1360	1419	1473	1485	1024
55°	989	1033	1109	1166	1178	887
65°	651	701	790	856	872	648
75°	330	394	496	563	579	350
85°	68	125	155	151	151	82
90°	0	0	0	0	0	



TEST NUMBER: P311708

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-S-CA08-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2201.6	2201.6	2201.6	2201.6	2201.6
2.5°	2203.6	2203.6	2193.7	2203.6	2205.6
5°	2191.7	2195.7	2185.7	2197.7	2199.6
7.5°	2179.7	2179.7	2173.8	2185.7	2187.7
10°	2157.8	2159.8	2157.8	2171.8	2173.8
12.5°	2130.0	2134.0	2135.9	2149.9	2151.9
15°	2096.1	2102.1	2106.1	2124.0	2128.0
17.5°	2058.3	2064.3	2074.2	2094.1	2098.1
20°	2012.5	2020.5	2032.4	2058.3	2064.3
22.5°	1962.8	1970.7	1990.6	2014.5	2024.5
25°	1905.0	1921.0	1940.9	1972.7	1978.7
27.5°	1847.3	1861.2	1887.1	1921.0	1928.9
30°	1779.6	1801.5	1833.4	1867.2	1875.2
32.5°	1713.9	1735.8	1773.7	1809.5	1819.4
35°	1646.3	1666.2	1706.0	1747.8	1759.7
37.5°	1568.6	1594.5	1638.3	1680.1	1692.0
40°	1487.0	1518.9	1568.6	1612.4	1626.3
42.5°	1409.4	1443.2	1493.0	1540.7	1556.7
45°	1327.8	1359.6	1419.3	1473.1	1485.0
47.5°	1244.1	1280.0	1343.7	1397.4	1417.3
50°	1160.5	1198.4	1266.0	1321.8	1333.7
52.5°	1076.9	1116.7	1188.4	1248.1	1254.1
55°	989.3	1033.1	1108.8	1166.5	1178.5
57.5°	909.7	947.5	1029.2	1088.9	1102.8
60°	822.1	863.9	951.5	1007.3	1025.2
62.5°	738.5	782.3	873.9	929.6	945.5
65°	650.9	700.7	790.3	856.0	871.9
67.5°	575.3	623.1	718.6	782.3	798.2
70°	487.7	541.5	643.0	708.7	724.6
72.5°	412.1	467.8	569.3	633.0	656.9
75°	330.4	394.1	495.7	563.3	579.3
77.5°	250.8	324.5	428.0	479.7	479.7
80°	179.2	256.8	352.3	376.2	380.2
82.5°	117.4	193.1	260.8	258.8	258.8
85°	67.7	125.4	155.3	151.3	151.3
87.5°	25.9	51.8	55.7	55.7	53.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)