

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: P311033

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-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: P311033
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 5965.0 lumens
Efficiency: N/A
Efficacy: 112.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

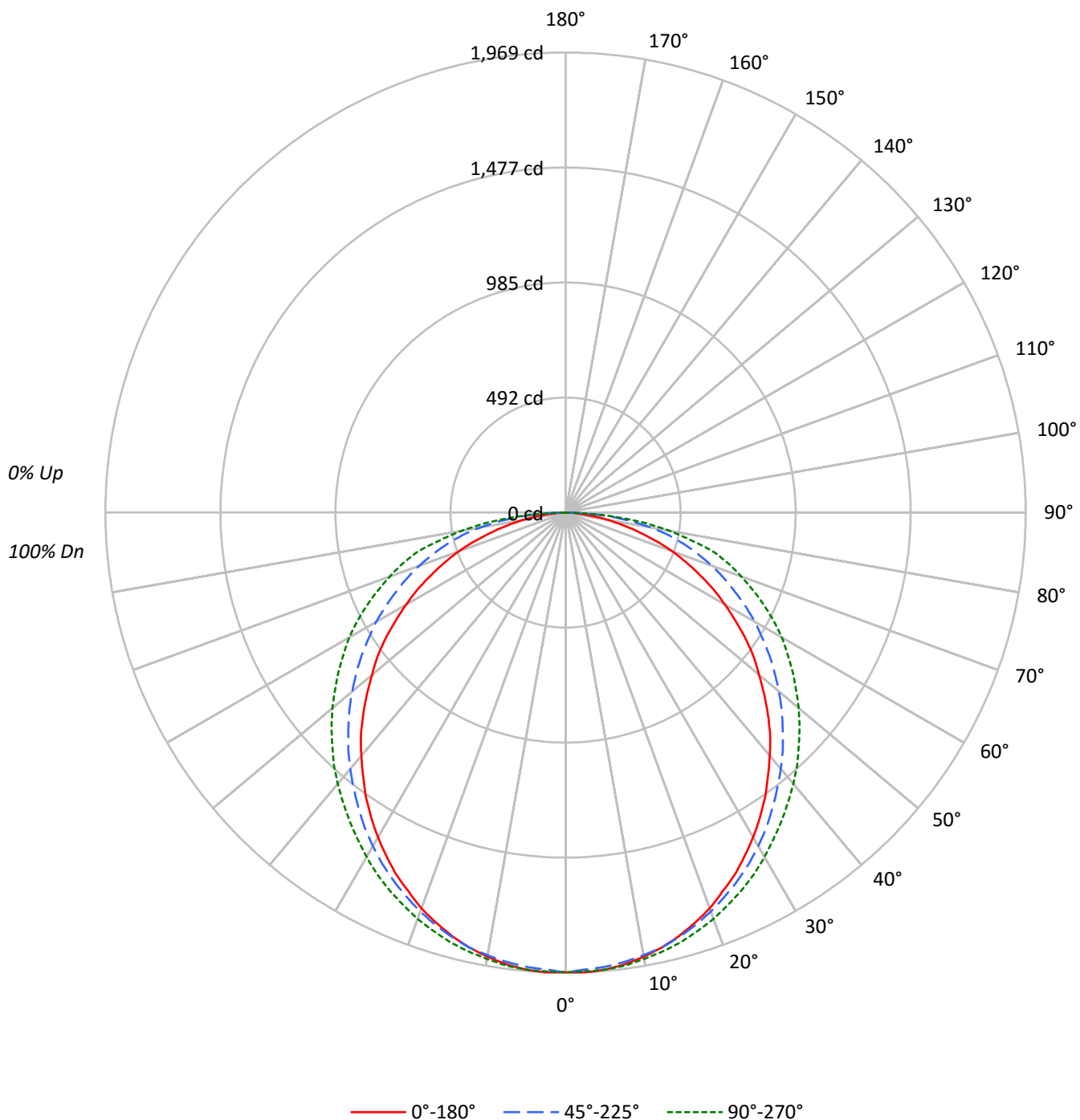
Input Watts (W): 53.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82		
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67		
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56		
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47		
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41		
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36		
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31		
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28		
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25		
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2647	2647	2647
5°	2652	2636	2652
10°	2636	2628	2650
15°	2613	2619	2652
20°	2581	2601	2649
25°	2541	2583	2647
30°	2494	2561	2644
35°	2445	2536	2646
40°	2388	2517	2663
45°	2331	2500	2685
50°	2262	2494	2726
55°	2205	2498	2781
60°	2120	2519	2876
65°	2023	2545	2980
70°	1915	2624	3145
75°	1708	2737	3436
80°	1457	2898	3512
85°	1039	2871	3361



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.2	3.1
10°-20°	532.3	8.9
20°-30°	804.0	13.5
30°-40°	969.1	16.2
40°-50°	1017.3	17.1
50°-60°	951.8	16.0
60°-70°	786.0	13.2
70°-80°	535.6	9.0
80°-90°	182.7	3.1
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°	1522.6	25.5
0°-40°	2491.6	41.8
0°-60°	4460.8	74.8
0°-90°	5965.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5965.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1967	1967	1967	1967	1967	
5°	1963	1961	1951	1963	1963	186
15°	1876	1878	1880	1900	1904	529
25°	1712	1720	1740	1773	1783	788
35°	1488	1504	1544	1595	1611	930
45°	1225	1251	1314	1385	1411	945
55°	940	978	1065	1152	1186	839
65°	635	689	800	900	936	630
75°	328	404	526	625	661	350
85°	67	133	186	210	218	84
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1967.2	1967.2	1967.2	1967.2	1967.2
2.5°	1969.2	1967.2	1957.3	1967.2	1965.2
5°	1963.2	1961.3	1951.4	1963.2	1963.2
7.5°	1949.4	1949.4	1939.5	1953.4	1955.3
10°	1929.6	1929.6	1923.7	1939.5	1939.5
12.5°	1905.9	1905.9	1905.9	1921.7	1923.7
15°	1876.2	1878.1	1880.1	1899.9	1903.9
17.5°	1840.5	1844.5	1850.4	1874.2	1878.1
20°	1802.9	1806.9	1816.8	1844.5	1850.4
22.5°	1755.4	1765.3	1779.2	1810.9	1816.8
25°	1711.9	1719.8	1739.6	1773.3	1783.2
27.5°	1658.5	1670.3	1696.1	1731.7	1745.5
30°	1605.0	1616.9	1648.6	1690.1	1702.0
32.5°	1547.6	1565.5	1599.1	1642.6	1656.5
35°	1488.3	1504.1	1543.7	1595.1	1611.0
37.5°	1423.0	1444.7	1488.3	1543.7	1563.5
40°	1359.6	1383.4	1432.9	1492.2	1516.0
42.5°	1296.3	1320.0	1375.5	1442.7	1466.5
45°	1225.1	1250.8	1314.1	1385.4	1411.1
47.5°	1153.8	1185.5	1254.7	1329.9	1357.6
50°	1080.6	1116.2	1191.4	1270.6	1302.2
52.5°	1015.3	1048.9	1128.1	1213.2	1242.9
55°	940.1	977.7	1064.7	1151.8	1185.5
57.5°	862.9	904.4	997.5	1092.5	1126.1
60°	787.7	833.2	936.1	1031.1	1068.7
62.5°	714.4	760.0	866.8	965.8	1003.4
65°	635.3	688.7	799.5	900.5	936.1
67.5°	560.1	617.5	734.2	833.2	868.8
70°	486.9	542.3	666.9	763.9	799.5
72.5°	407.7	471.0	595.7	696.6	734.2
75°	328.5	403.7	526.4	625.4	661.0
77.5°	255.3	332.5	455.2	536.3	554.1
80°	188.0	267.2	374.0	431.4	453.2
82.5°	120.7	199.9	285.0	326.5	344.4
85°	67.3	132.6	186.0	209.8	217.7
87.5°	27.7	57.4	75.2	85.1	85.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)