

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: P311358

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CA125-W2A-U-4500K**

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: P311358  
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: 24FCZ2-40HE-UNV-L82765-S-CA125-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC SHEET  
Light Source: (336) 4500K 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**

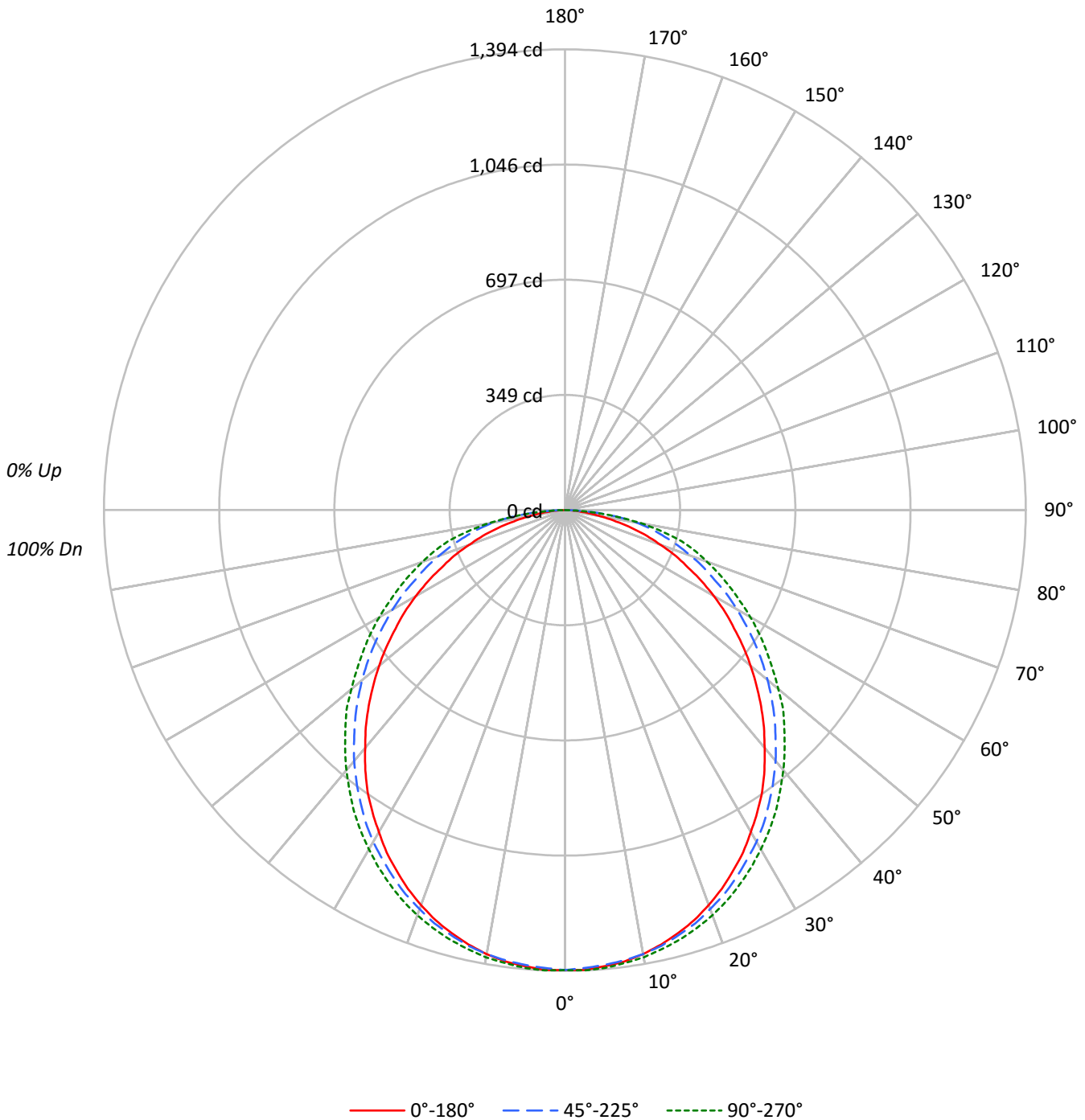
Lumens per Lamp: N/A  
Luminaire Lumens: 3961.0 lumens  
Efficiency: N/A  
Efficacy: 127.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	1872	1872	1872
5°	1871	1866	1878
10°	1863	1863	1877
15°	1845	1854	1874
20°	1821	1839	1868
25°	1788	1821	1857
30°	1748	1800	1841
35°	1709	1771	1827
40°	1651	1741	1805
45°	1597	1707	1786
50°	1535	1675	1765
55°	1467	1644	1747
60°	1398	1618	1744
65°	1310	1590	1755
70°	1212	1599	1802
75°	1086	1629	1903
80°	877	1726	1862
85°	661	1514	1476



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.7	3.3
10°-20°	376.4	9.5
20°-30°	565.8	14.3
30°-40°	674.0	17.0
40°-50°	689.8	17.4
50°-60°	621.0	15.7
60°-70°	487.7	12.3
70°-80°	316.5	8.0
80°-90°	97.9	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°	1074.0	27.1
0°-40°	1748.0	44.1
0°-60°	3058.9	77.2
0°-90°	3961.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3961.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1392	1392	1392	1392	1392	
5°	1385	1388	1382	1389	1390	132
15°	1325	1329	1331	1342	1345	374
25°	1204	1214	1227	1247	1251	555
35°	1040	1053	1078	1105	1112	649
45°	839	859	897	931	939	647
55°	625	653	701	737	745	561
65°	411	443	500	541	551	410
75°	209	249	313	356	366	221
85°	43	79	98	96	96	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1391.5	1391.5	1391.5	1391.5	1391.5
2.5°	1392.8	1392.8	1386.5	1392.8	1394.0
5°	1385.2	1387.8	1381.5	1389.0	1390.3
7.5°	1377.7	1377.7	1373.9	1381.5	1382.7
10°	1363.8	1365.1	1363.8	1372.7	1373.9
12.5°	1346.2	1348.7	1350.0	1358.8	1360.1
15°	1324.8	1328.6	1331.1	1342.5	1345.0
17.5°	1300.9	1304.7	1311.0	1323.6	1326.1
20°	1272.0	1277.0	1284.6	1300.9	1304.7
22.5°	1240.5	1245.6	1258.2	1273.3	1279.5
25°	1204.1	1214.1	1226.7	1246.8	1250.6
27.5°	1167.6	1176.4	1192.7	1214.1	1219.2
30°	1124.8	1138.6	1158.8	1180.2	1185.2
32.5°	1083.3	1097.1	1121.0	1143.7	1150.0
35°	1040.5	1053.1	1078.2	1104.7	1112.2
37.5°	991.4	1007.8	1035.5	1061.9	1069.4
40°	939.8	960.0	991.4	1019.1	1027.9
42.5°	890.8	912.2	943.6	973.8	983.9
45°	839.2	859.3	897.1	931.0	938.6
47.5°	786.4	809.0	849.3	883.2	895.8
50°	733.5	757.4	800.2	835.4	843.0
52.5°	680.7	705.8	751.1	788.9	792.6
55°	625.3	653.0	700.8	737.3	744.8
57.5°	575.0	598.9	650.5	688.2	697.0
60°	519.6	546.0	601.4	636.6	648.0
62.5°	466.8	494.5	552.3	587.6	597.6
65°	411.4	442.9	499.5	541.0	551.1
67.5°	363.6	393.8	454.2	494.5	504.5
70°	308.2	342.2	406.4	447.9	458.0
72.5°	260.4	295.7	359.8	400.1	415.2
75°	208.9	249.1	313.3	356.1	366.1
77.5°	158.5	205.1	270.5	303.2	303.2
80°	113.2	162.3	222.7	237.8	240.3
82.5°	74.2	122.0	164.8	163.6	163.6
85°	42.8	79.3	98.1	95.6	95.6
87.5°	16.4	32.7	35.2	35.2	34.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)