

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: P311350

Luminaire Tested: **24FCZ2-40HE-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: P311350
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-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

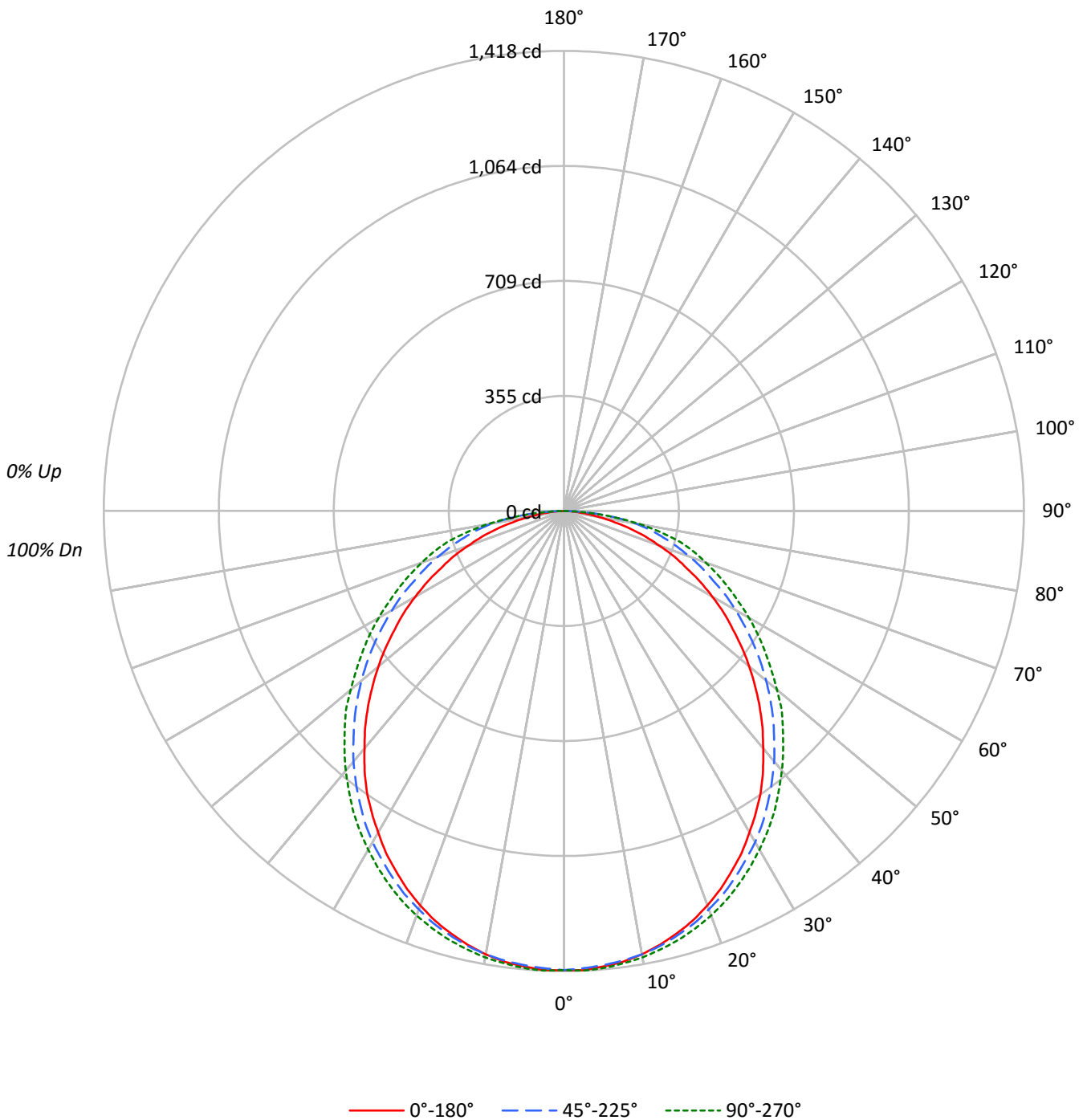
Lumens per Lamp: N/A
Luminaire Lumens: 4029.0 lumens
Efficiency: N/A
Efficacy: 129.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 31.1
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°	1904	1904	1904
5°	1903	1898	1910
10°	1895	1895	1909
15°	1877	1886	1906
20°	1853	1871	1900
25°	1818	1852	1889
30°	1778	1831	1873
35°	1738	1802	1858
40°	1679	1771	1837
45°	1624	1736	1817
50°	1562	1704	1795
55°	1492	1672	1777
60°	1422	1646	1774
65°	1332	1618	1784
70°	1233	1626	1832
75°	1104	1657	1936
80°	893	1755	1894
85°	672	1541	1502



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.0	3.3
10°-20°	382.9	9.5
20°-30°	575.6	14.3
30°-40°	685.6	17.0
40°-50°	701.7	17.4
50°-60°	631.7	15.7
60°-70°	496.1	12.3
70°-80°	322.0	8.0
80°-90°	99.6	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°	1092.4	27.1
0°-40°	1778.0	44.1
0°-60°	3111.4	77.2
0°-90°	4029.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4029.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1415	1415	1415	1415	1415	
5°	1409	1412	1405	1413	1414	134
15°	1348	1351	1354	1366	1368	380
25°	1225	1235	1248	1268	1272	564
35°	1058	1071	1097	1124	1131	660
45°	854	874	912	947	955	658
55°	636	664	713	750	758	570
65°	418	450	508	550	560	417
75°	212	253	319	362	372	225
85°	44	81	100	97	97	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1415.4	1415.4	1415.4	1415.4	1415.4
2.5°	1416.7	1416.7	1410.3	1416.7	1418.0
5°	1409.0	1411.6	1405.2	1412.9	1414.1
7.5°	1401.3	1401.3	1397.5	1405.2	1406.5
10°	1387.3	1388.5	1387.3	1396.2	1397.5
12.5°	1369.3	1371.9	1373.2	1382.1	1383.4
15°	1347.6	1351.4	1354.0	1365.5	1368.1
17.5°	1323.3	1327.1	1333.5	1346.3	1348.9
20°	1293.8	1299.0	1306.6	1323.3	1327.1
22.5°	1261.8	1267.0	1279.8	1295.1	1301.5
25°	1224.7	1235.0	1247.8	1268.2	1272.1
27.5°	1187.6	1196.6	1213.2	1235.0	1240.1
30°	1144.1	1158.2	1178.7	1200.4	1205.5
32.5°	1101.9	1116.0	1140.3	1163.3	1169.7
35°	1058.4	1071.2	1096.8	1123.6	1131.3
37.5°	1008.5	1025.1	1053.2	1080.1	1087.8
40°	956.0	976.5	1008.5	1036.6	1045.6
42.5°	906.1	927.8	959.8	990.5	1000.8
45°	853.6	874.1	912.5	947.0	954.7
47.5°	799.8	822.9	863.8	898.4	911.2
50°	746.1	770.4	813.9	849.8	857.4
52.5°	692.3	717.9	764.0	802.4	806.2
55°	636.0	664.2	712.8	749.9	757.6
57.5°	584.9	609.2	661.6	700.0	709.0
60°	528.5	555.4	611.7	647.6	659.1
62.5°	474.8	502.9	561.8	597.6	607.9
65°	418.5	450.5	508.1	550.3	560.5
67.5°	369.9	400.6	462.0	502.9	513.2
70°	313.5	348.1	413.4	455.6	465.8
72.5°	264.9	300.7	366.0	407.0	422.3
75°	212.4	253.4	318.7	362.2	372.4
77.5°	161.2	208.6	275.1	308.4	308.4
80°	115.2	165.1	226.5	241.9	244.4
82.5°	75.5	124.1	167.6	166.4	166.4
85°	43.5	80.6	99.8	97.3	97.3
87.5°	16.6	33.3	35.8	35.8	34.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)