

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: P311348

Luminaire Tested: **24FCZ2-40HE-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: P311348
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-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

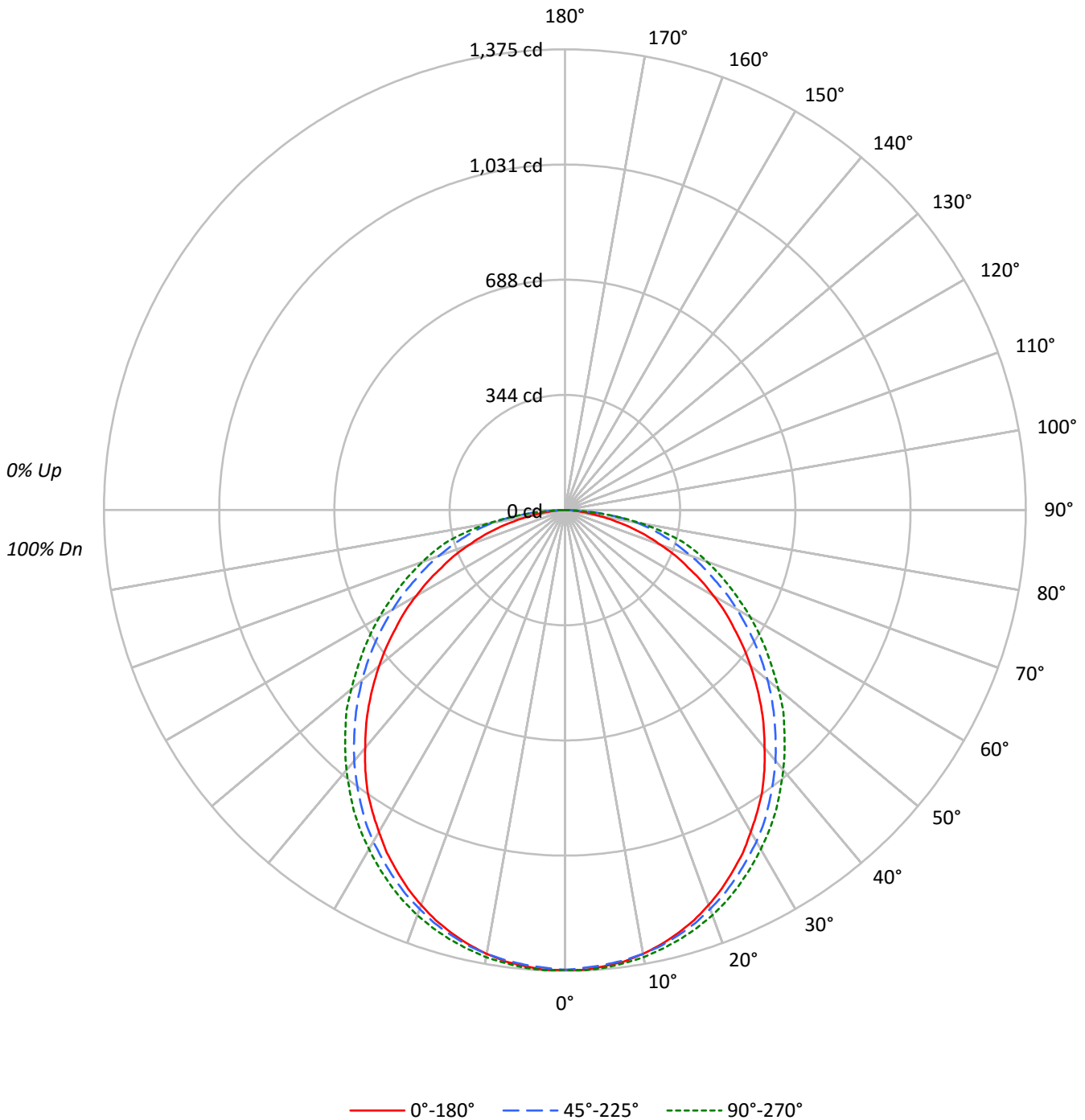
Lumens per Lamp: N/A
Luminaire Lumens: 3906.0 lumens
Efficiency: N/A
Efficacy: 126.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 30.8
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°	1846	1846	1846
5°	1845	1840	1852
10°	1837	1837	1851
15°	1820	1829	1847
20°	1796	1814	1842
25°	1763	1796	1831
30°	1723	1775	1816
35°	1685	1747	1802
40°	1628	1717	1780
45°	1575	1683	1761
50°	1514	1652	1740
55°	1446	1621	1723
60°	1379	1596	1720
65°	1292	1568	1730
70°	1196	1576	1777
75°	1071	1606	1877
80°	865	1702	1836
85°	651	1494	1456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.9	3.3
10°-20°	371.2	9.5
20°-30°	558.0	14.3
30°-40°	664.7	17.0
40°-50°	680.2	17.4
50°-60°	612.4	15.7
60°-70°	480.9	12.3
70°-80°	312.1	8.0
80°-90°	96.5	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°	1059.1	27.1
0°-40°	1723.7	44.1
0°-60°	3016.4	77.2
0°-90°	3906.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3906.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1372	1372	1372	1372	1372	
5°	1366	1368	1362	1370	1371	130
15°	1306	1310	1313	1324	1326	368
25°	1187	1197	1210	1230	1233	547
35°	1026	1038	1063	1089	1097	640
45°	828	847	885	918	926	638
55°	617	644	691	727	734	553
65°	406	437	493	534	543	404
75°	206	246	309	351	361	218
85°	42	78	97	94	94	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1372.2	1372.2	1372.2	1372.2	1372.2
2.5°	1373.4	1373.4	1367.2	1373.4	1374.7
5°	1366.0	1368.5	1362.3	1369.7	1371.0
7.5°	1358.6	1358.6	1354.8	1362.3	1363.5
10°	1344.9	1346.1	1344.9	1353.6	1354.8
12.5°	1327.5	1330.0	1331.3	1339.9	1341.2
15°	1306.4	1310.2	1312.7	1323.8	1326.3
17.5°	1282.9	1286.6	1292.8	1305.2	1307.7
20°	1254.3	1259.3	1266.7	1282.9	1286.6
22.5°	1223.3	1228.3	1240.7	1255.6	1261.8
25°	1187.3	1197.3	1209.7	1229.5	1233.2
27.5°	1151.4	1160.0	1176.2	1197.3	1202.2
30°	1109.2	1122.8	1142.7	1163.8	1168.7
32.5°	1068.2	1081.9	1105.5	1127.8	1134.0
35°	1026.1	1038.5	1063.3	1089.3	1096.8
37.5°	977.7	993.8	1021.1	1047.1	1054.6
40°	926.8	946.6	977.7	1005.0	1013.6
42.5°	878.4	899.5	930.5	960.3	970.2
45°	827.5	847.4	884.6	918.1	925.6
47.5°	775.4	797.8	837.5	871.0	883.4
50°	723.3	746.9	789.1	823.8	831.3
52.5°	671.2	696.0	740.7	777.9	781.6
55°	616.6	643.9	691.1	727.0	734.5
57.5°	567.0	590.6	641.4	678.7	687.3
60°	512.4	538.5	593.0	627.8	639.0
62.5°	460.3	487.6	544.7	579.4	589.3
65°	405.7	436.7	492.6	533.5	543.4
67.5°	358.6	388.3	447.9	487.6	497.5
70°	304.0	337.5	400.7	441.7	451.6
72.5°	256.8	291.6	354.8	394.5	409.4
75°	206.0	245.7	308.9	351.1	361.0
77.5°	156.3	202.2	266.7	299.0	299.0
80°	111.7	160.0	219.6	234.5	237.0
82.5°	73.2	120.3	162.5	161.3	161.3
85°	42.2	78.2	96.8	94.3	94.3
87.5°	16.1	32.3	34.7	34.7	33.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)