

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: P311352

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CA08-W2A-U-5700K**

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: P311352
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-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5700K 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: 4079.0 lumens
Efficiency: N/A
Efficacy: 130.3 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

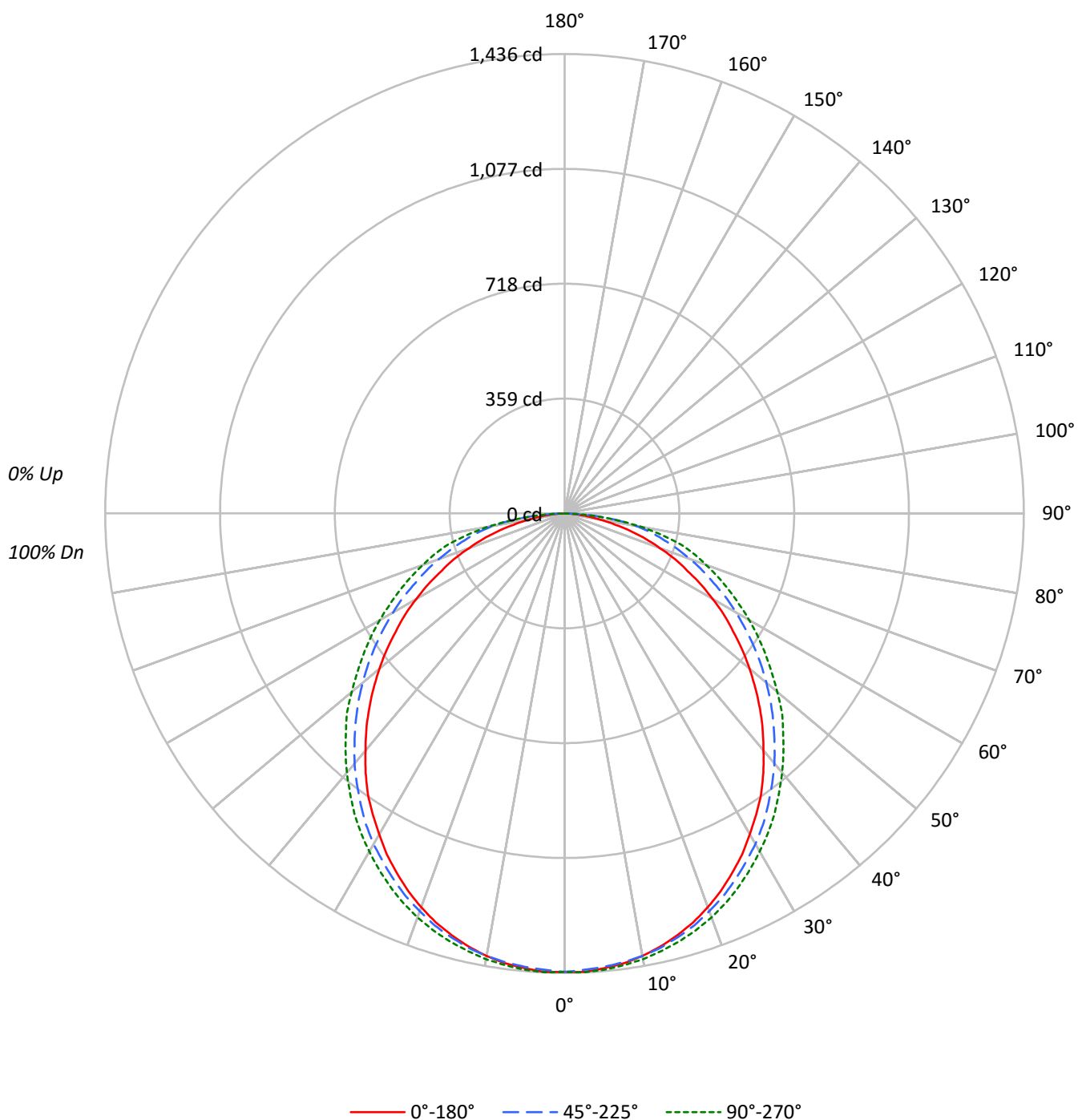
Input Watts (W): 31.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1928	1928	1928
5°	1927	1921	1934
10°	1919	1919	1933
15°	1900	1909	1929
20°	1876	1894	1924
25°	1841	1875	1912
30°	1800	1854	1896
35°	1760	1824	1881
40°	1700	1793	1859
45°	1644	1758	1839
50°	1581	1725	1817
55°	1510	1693	1799
60°	1440	1667	1796
65°	1349	1638	1807
70°	1249	1646	1855
75°	1118	1677	1960
80°	903	1777	1918
85°	681	1561	1521



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.7	3.3
10°-20°	387.6	9.5
20°-30°	582.7	14.3
30°-40°	694.1	17.0
40°-50°	710.4	17.4
50°-60°	639.5	15.7
60°-70°	502.2	12.3
70°-80°	326.0	8.0
80°-90°	100.8	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°	1106.0	27.1
0°-40°	1800.1	44.1
0°-60°	3150.0	77.2
0°-90°	4079.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4079.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1433	1433	1433	1433	1433	
5°	1426	1429	1423	1430	1432	136
15°	1364	1368	1371	1382	1385	385
25°	1240	1250	1263	1284	1288	571
35°	1072	1084	1110	1138	1145	668
45°	864	885	924	959	966	666
55°	644	672	722	759	767	577
65°	424	456	514	557	568	422
75°	215	256	323	367	377	228
85°	44	82	101	98	98	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1433.0	1433.0	1433.0	1433.0	1433.0
2.5°	1434.3	1434.3	1427.8	1434.3	1435.6
5°	1426.5	1429.1	1422.6	1430.4	1431.7
7.5°	1418.7	1418.7	1414.8	1422.6	1423.9
10°	1404.5	1405.8	1404.5	1413.5	1414.8
12.5°	1386.3	1388.9	1390.2	1399.3	1400.6
15°	1364.3	1368.2	1370.8	1382.4	1385.0
17.5°	1339.7	1343.6	1350.1	1363.0	1365.6
20°	1309.9	1315.1	1322.8	1339.7	1343.6
22.5°	1277.5	1282.7	1295.6	1311.2	1317.7
25°	1239.9	1250.3	1263.3	1284.0	1287.9
27.5°	1202.4	1211.4	1228.3	1250.3	1255.5
30°	1158.3	1172.6	1193.3	1215.3	1220.5
32.5°	1115.5	1129.8	1154.4	1177.7	1184.2
35°	1071.5	1084.5	1110.4	1137.6	1145.3
37.5°	1021.0	1037.8	1066.3	1093.5	1101.3
40°	967.8	988.6	1021.0	1049.5	1058.5
42.5°	917.3	939.3	971.7	1002.8	1013.2
45°	864.2	884.9	923.8	958.8	966.5
47.5°	809.8	833.1	874.6	909.5	922.5
50°	755.4	780.0	824.0	860.3	868.1
52.5°	700.9	726.9	773.5	812.4	816.3
55°	643.9	672.4	721.7	759.2	767.0
57.5°	592.1	616.7	669.8	708.7	717.8
60°	535.1	562.3	619.3	655.6	667.3
62.5°	480.7	509.2	568.8	605.1	615.4
65°	423.7	456.1	514.4	557.1	567.5
67.5°	374.4	405.5	467.7	509.2	519.6
70°	317.4	352.4	418.5	461.2	471.6
72.5°	268.2	304.5	370.6	412.0	427.6
75°	215.1	256.5	322.6	366.7	377.0
77.5°	163.3	211.2	278.6	312.2	312.2
80°	116.6	167.1	229.3	244.9	247.5
82.5°	76.4	125.7	169.7	168.4	168.4
85°	44.1	81.6	101.1	98.5	98.5
87.5°	16.8	33.7	36.3	36.3	35.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)