

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: P310718

Luminaire Tested: **24FCZ2-40-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: P310718
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: 24FCZ2-40-UNV-L82765-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 3695.0 lumens
Efficiency: N/A
Efficacy: 111.6 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

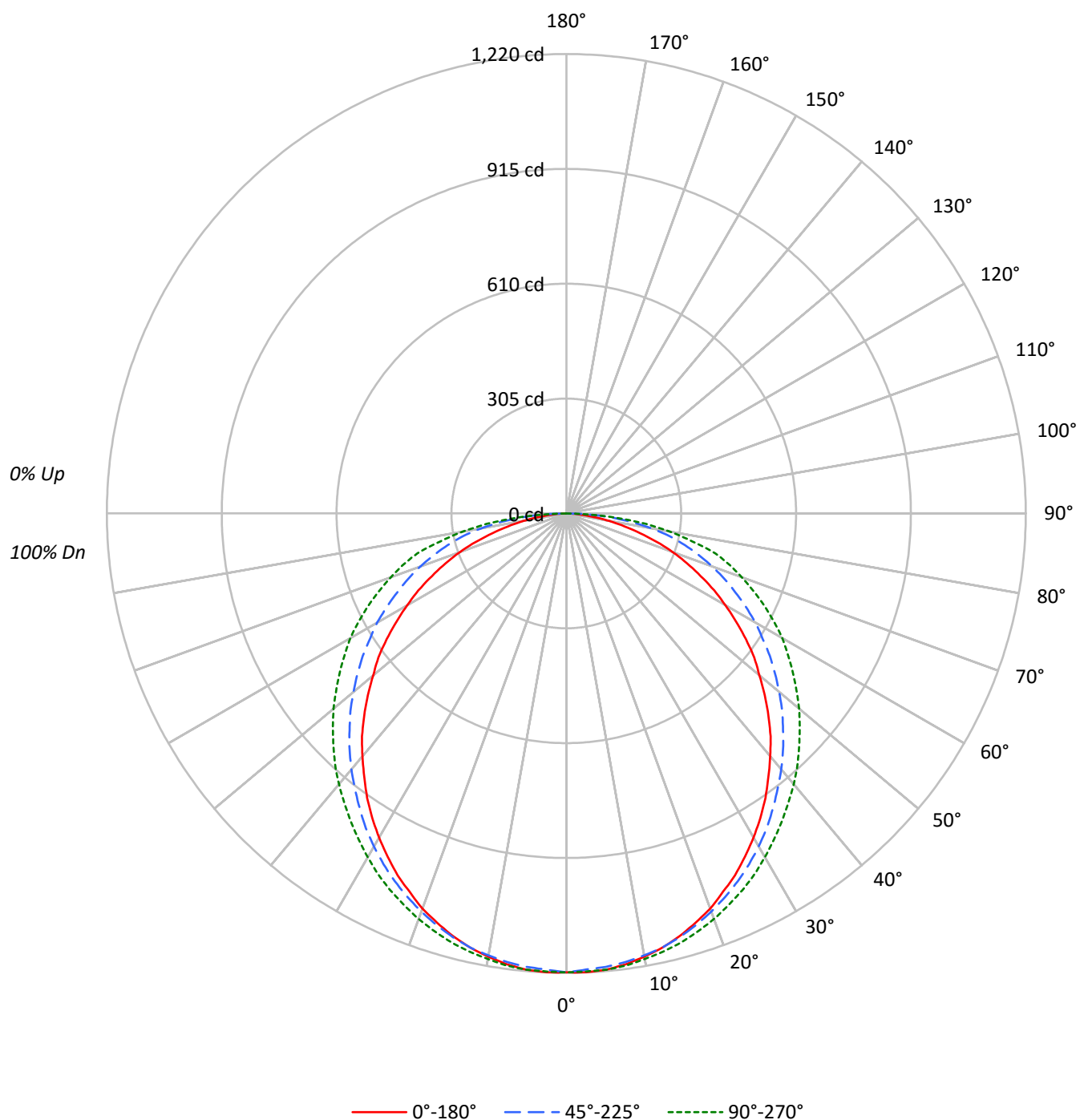
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1640	1640	1640
5°	1642	1633	1642
10°	1633	1628	1641
15°	1619	1622	1643
20°	1599	1611	1641
25°	1574	1600	1640
30°	1545	1587	1638
35°	1514	1571	1639
40°	1479	1559	1649
45°	1444	1549	1663
50°	1401	1545	1689
55°	1366	1547	1723
60°	1313	1560	1781
65°	1253	1577	1846
70°	1186	1625	1948
75°	1058	1695	2129
80°	903	1795	2175
85°	644	1778	2083



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.3	3.1
10°-20°	329.8	8.9
20°-30°	498.1	13.5
30°-40°	600.3	16.2
40°-50°	630.2	17.1
50°-60°	589.6	16.0
60°-70°	486.9	13.2
70°-80°	331.8	9.0
80°-90°	113.1	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°	943.1	25.5
0°-40°	1543.4	41.8
0°-60°	2763.2	74.8
0°-90°	3695.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3695.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1219	1219	1219	1219	1219	
5°	1216	1215	1209	1216	1216	115
15°	1162	1163	1165	1177	1179	328
25°	1060	1065	1078	1098	1105	488
35°	922	932	956	988	998	576
45°	759	775	814	858	874	585
55°	582	606	660	714	734	520
65°	394	427	495	558	580	390
75°	204	250	326	387	410	217
85°	42	82	115	130	135	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1218.6	1218.6	1218.6	1218.6	1218.6
2.5°	1219.8	1218.6	1212.4	1218.6	1217.4
5°	1216.1	1214.9	1208.8	1216.1	1216.1
7.5°	1207.5	1207.5	1201.4	1210.0	1211.2
10°	1195.3	1195.3	1191.6	1201.4	1201.4
12.5°	1180.6	1180.6	1180.6	1190.4	1191.6
15°	1162.2	1163.4	1164.6	1176.9	1179.3
17.5°	1140.1	1142.6	1146.2	1161.0	1163.4
20°	1116.8	1119.3	1125.4	1142.6	1146.2
22.5°	1087.4	1093.5	1102.1	1121.7	1125.4
25°	1060.4	1065.3	1077.6	1098.4	1104.6
27.5°	1027.3	1034.7	1050.6	1072.7	1081.3
30°	994.2	1001.6	1021.2	1046.9	1054.3
32.5°	958.7	969.7	990.6	1017.5	1026.1
35°	921.9	931.7	956.2	988.1	997.9
37.5°	881.4	894.9	921.9	956.2	968.5
40°	842.2	856.9	887.6	924.4	939.1
42.5°	803.0	817.7	852.0	893.7	908.4
45°	758.9	774.8	814.0	858.2	874.1
47.5°	714.7	734.3	777.2	823.8	841.0
50°	669.4	691.4	738.0	787.0	806.7
52.5°	628.9	649.7	698.8	751.5	769.9
55°	582.3	605.6	659.6	713.5	734.3
57.5°	534.5	560.3	617.9	676.7	697.6
60°	487.9	516.1	579.9	638.7	662.0
62.5°	442.6	470.8	537.0	598.3	621.5
65°	393.5	426.6	495.3	557.8	579.9
67.5°	346.9	382.5	454.8	516.1	538.2
70°	301.6	335.9	413.1	473.2	495.3
72.5°	252.5	291.8	369.0	431.5	454.8
75°	203.5	250.1	326.1	387.4	409.5
77.5°	158.1	206.0	282.0	332.2	343.3
80°	116.5	165.5	231.7	267.3	280.7
82.5°	74.8	123.8	176.5	202.3	213.3
85°	41.7	82.1	115.2	129.9	134.9
87.5°	17.2	35.6	46.6	52.7	52.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)