

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: P310809

Luminaire Tested: **24FCZ2-45-UNV-L82765-CA08-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: P310809
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: 24FCZ2-45-UNV-L82765-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 4209.0 lumens
Efficiency: N/A
Efficacy: 109.9 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

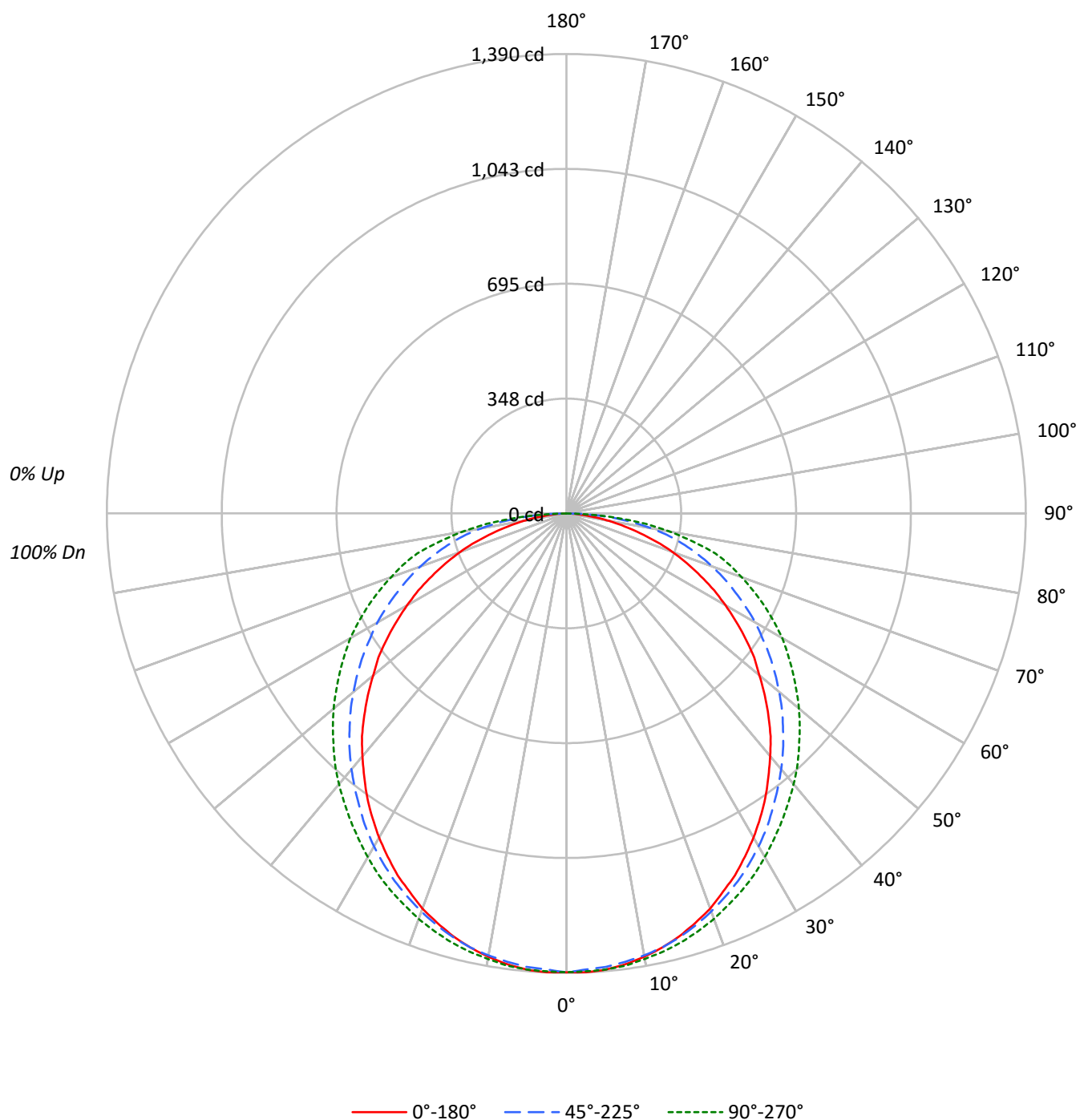
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		0
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1868	1868	1868
5°	1871	1860	1871
10°	1860	1855	1870
15°	1844	1848	1871
20°	1822	1836	1870
25°	1793	1822	1868
30°	1759	1807	1866
35°	1725	1789	1867
40°	1685	1776	1879
45°	1645	1764	1895
50°	1596	1760	1923
55°	1556	1762	1962
60°	1496	1777	2029
65°	1427	1796	2103
70°	1351	1851	2220
75°	1205	1931	2425
80°	1028	2045	2478
85°	733	2027	2371



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.4	3.1
10°-20°	375.6	8.9
20°-30°	567.3	13.5
30°-40°	683.8	16.2
40°-50°	717.8	17.1
50°-60°	671.6	16.0
60°-70°	554.6	13.2
70°-80°	377.9	9.0
80°-90°	128.9	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°	1074.3	25.5
0°-40°	1758.1	41.8
0°-60°	3147.6	74.8
0°-90°	4209.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4209.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1385	1384	1377	1385	1385	131
15°	1324	1325	1327	1341	1343	373
25°	1208	1214	1228	1251	1258	556
35°	1050	1061	1089	1126	1137	656
45°	864	883	927	978	996	667
55°	663	690	751	813	836	592
65°	448	486	564	635	660	445
75°	232	285	372	441	466	247
85°	48	94	131	148	154	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1388.1	1388.1	1388.1	1388.1	1388.1
2.5°	1389.5	1388.1	1381.1	1388.1	1386.7
5°	1385.3	1383.9	1376.9	1385.3	1385.3
7.5°	1375.5	1375.5	1368.5	1378.3	1379.7
10°	1361.6	1361.6	1357.4	1368.5	1368.5
12.5°	1344.8	1344.8	1344.8	1356.0	1357.4
15°	1323.9	1325.3	1326.6	1340.6	1343.4
17.5°	1298.7	1301.5	1305.7	1322.5	1325.3
20°	1272.2	1275.0	1282.0	1301.5	1305.7
22.5°	1238.7	1245.7	1255.4	1277.8	1282.0
25°	1207.9	1213.5	1227.5	1251.2	1258.2
27.5°	1170.2	1178.6	1196.8	1221.9	1231.7
30°	1132.5	1140.9	1163.3	1192.6	1201.0
32.5°	1092.0	1104.6	1128.3	1159.1	1168.8
35°	1050.1	1061.3	1089.2	1125.6	1136.7
37.5°	1004.1	1019.4	1050.1	1089.2	1103.2
40°	959.4	976.1	1011.0	1052.9	1069.7
42.5°	914.7	931.4	970.5	1018.0	1034.8
45°	864.4	882.6	927.3	977.5	995.7
47.5°	814.1	836.5	885.4	938.4	958.0
50°	762.5	787.6	840.7	896.5	918.9
52.5°	716.4	740.1	796.0	856.0	877.0
55°	663.3	689.9	751.3	812.7	836.5
57.5°	608.9	638.2	703.8	770.9	794.6
60°	555.8	587.9	660.5	727.6	754.1
62.5°	504.1	536.2	611.7	681.5	708.0
65°	448.3	486.0	564.2	635.4	660.5
67.5°	395.2	435.7	518.1	587.9	613.1
70°	343.5	382.6	470.6	539.0	564.2
72.5°	287.7	332.4	420.3	491.6	518.1
75°	231.8	284.9	371.5	441.3	466.4
77.5°	180.1	234.6	321.2	378.4	391.0
80°	132.7	188.5	263.9	304.4	319.8
82.5°	85.2	141.0	201.1	230.4	243.0
85°	47.5	93.6	131.3	148.0	153.6
87.5°	19.6	40.5	53.1	60.0	60.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)