

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: P310407

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-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: P310407
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L82765-RDP-CA08-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 4520.0 lumens
Efficiency: N/A
Efficacy: 76.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

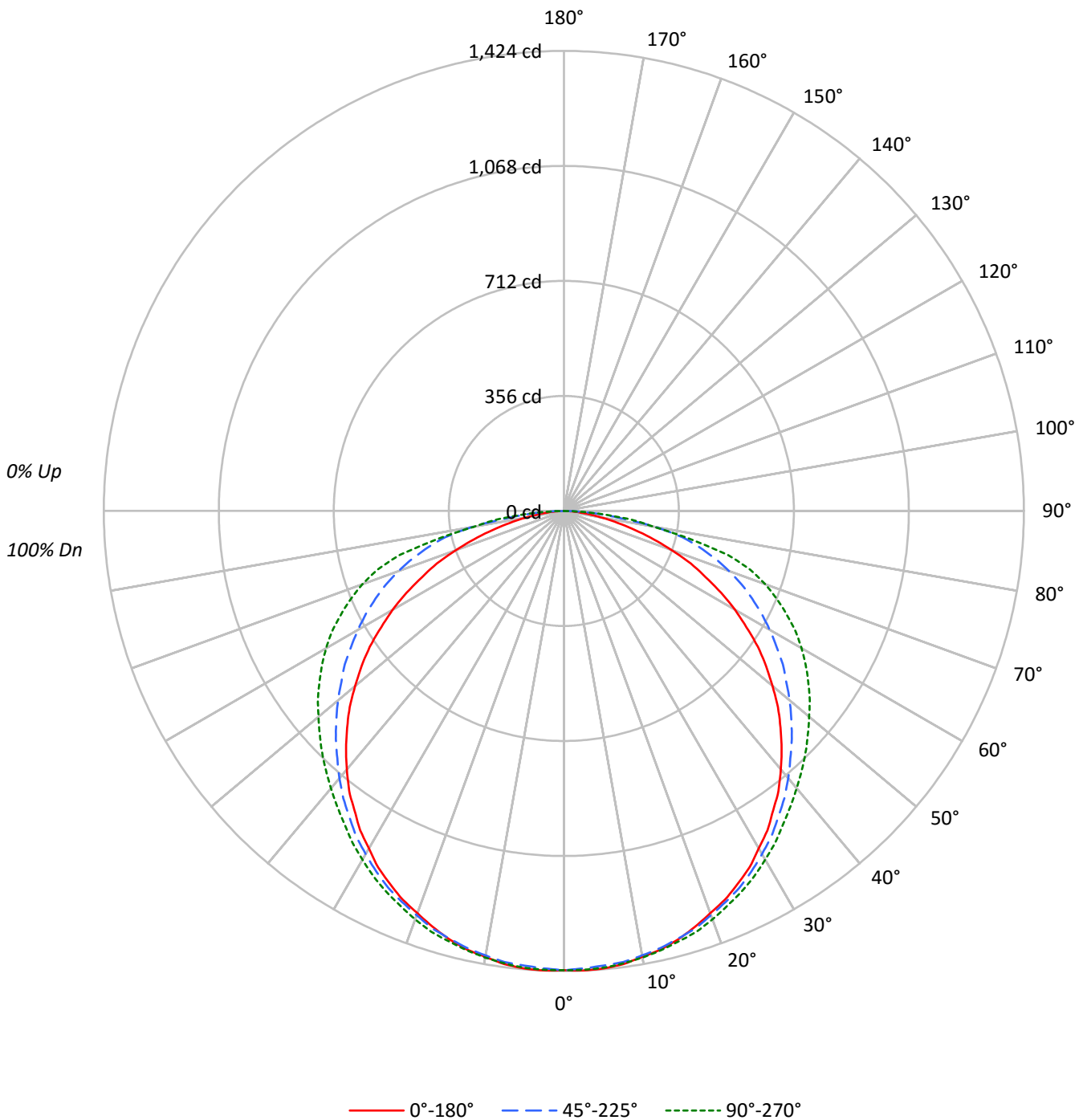
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1912	1912	1912
5°	1920	1908	1917
10°	1914	1908	1918
15°	1911	1908	1921
20°	1897	1907	1926
25°	1890	1911	1930
30°	1874	1905	1937
35°	1856	1900	1944
40°	1835	1898	1969
45°	1805	1898	2014
50°	1765	1910	2074
55°	1720	1941	2167
60°	1647	1979	2287
65°	1542	2048	2427
70°	1402	2143	2611
75°	1189	2261	2727
80°	938	2276	2206
85°	692	1731	1939



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.8	3.0
10°-20°	388.1	8.6
20°-30°	593.4	13.1
30°-40°	725.4	16.0
40°-50°	773.2	17.1
50°-60°	739.2	16.4
60°-70°	626.2	13.9
70°-80°	420.9	9.3
80°-90°	118.7	2.6
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°	1116.3	24.7
0°-40°	1841.7	40.7
0°-60°	3354.2	74.2
0°-90°	4520.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4520.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1421	1419	1412	1419	1419	135
15°	1372	1372	1370	1381	1379	387
25°	1273	1278	1287	1298	1300	587
35°	1130	1139	1157	1179	1184	708
45°	948	964	998	1040	1058	731
55°	733	760	827	892	924	653
65°	484	534	643	729	762	481
75°	229	312	435	509	525	245
85°	45	92	112	121	126	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1421.4	1421.4	1421.4	1421.4	1421.4
2.5°	1423.7	1423.7	1416.9	1421.4	1421.4
5°	1421.4	1419.2	1412.4	1419.2	1419.2
7.5°	1414.7	1412.4	1408.0	1414.7	1412.4
10°	1401.2	1401.2	1396.7	1403.5	1403.5
12.5°	1390.0	1387.8	1385.5	1394.5	1392.3
15°	1372.1	1372.1	1369.8	1381.1	1378.8
17.5°	1349.7	1351.9	1354.2	1363.1	1365.4
20°	1325.0	1329.5	1331.7	1345.2	1345.2
22.5°	1302.6	1304.8	1309.3	1322.8	1322.8
25°	1273.4	1277.9	1286.9	1298.1	1300.3
27.5°	1244.3	1246.5	1257.7	1273.4	1275.7
30°	1206.2	1212.9	1226.4	1244.3	1246.5
32.5°	1172.6	1179.3	1195.0	1212.9	1217.4
35°	1130.0	1138.9	1156.9	1179.3	1183.8
37.5°	1091.8	1098.6	1121.0	1145.6	1152.4
40°	1044.8	1058.2	1080.6	1109.8	1121.0
42.5°	997.7	1011.1	1038.0	1076.1	1089.6
45°	948.4	964.0	997.7	1040.3	1058.2
47.5°	899.0	917.0	955.1	1004.4	1024.6
50°	843.0	865.4	912.5	968.5	991.0
52.5°	789.2	816.1	867.6	930.4	959.6
55°	733.1	760.0	827.3	892.3	923.7
57.5°	670.3	706.2	780.2	854.2	887.8
60°	612.1	645.7	735.4	816.1	849.7
62.5°	549.3	594.1	690.5	775.7	809.4
65°	484.3	533.6	643.4	728.6	762.3
67.5°	426.0	479.8	596.4	681.6	715.2
70°	356.5	423.7	544.8	630.0	663.6
72.5°	291.5	365.4	491.0	573.9	605.3
75°	228.7	311.6	434.9	508.9	524.6
77.5°	170.4	257.8	376.7	408.0	396.8
80°	121.1	206.3	293.7	278.0	284.7
82.5°	78.5	156.9	181.6	206.3	213.0
85°	44.8	91.9	112.1	121.1	125.6
87.5°	20.2	33.6	44.8	44.8	42.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)