

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: P310416

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA125-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: P310416
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-CA125-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" 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: 4504.0 lumens
Efficiency: N/A
Efficacy: 76.0 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

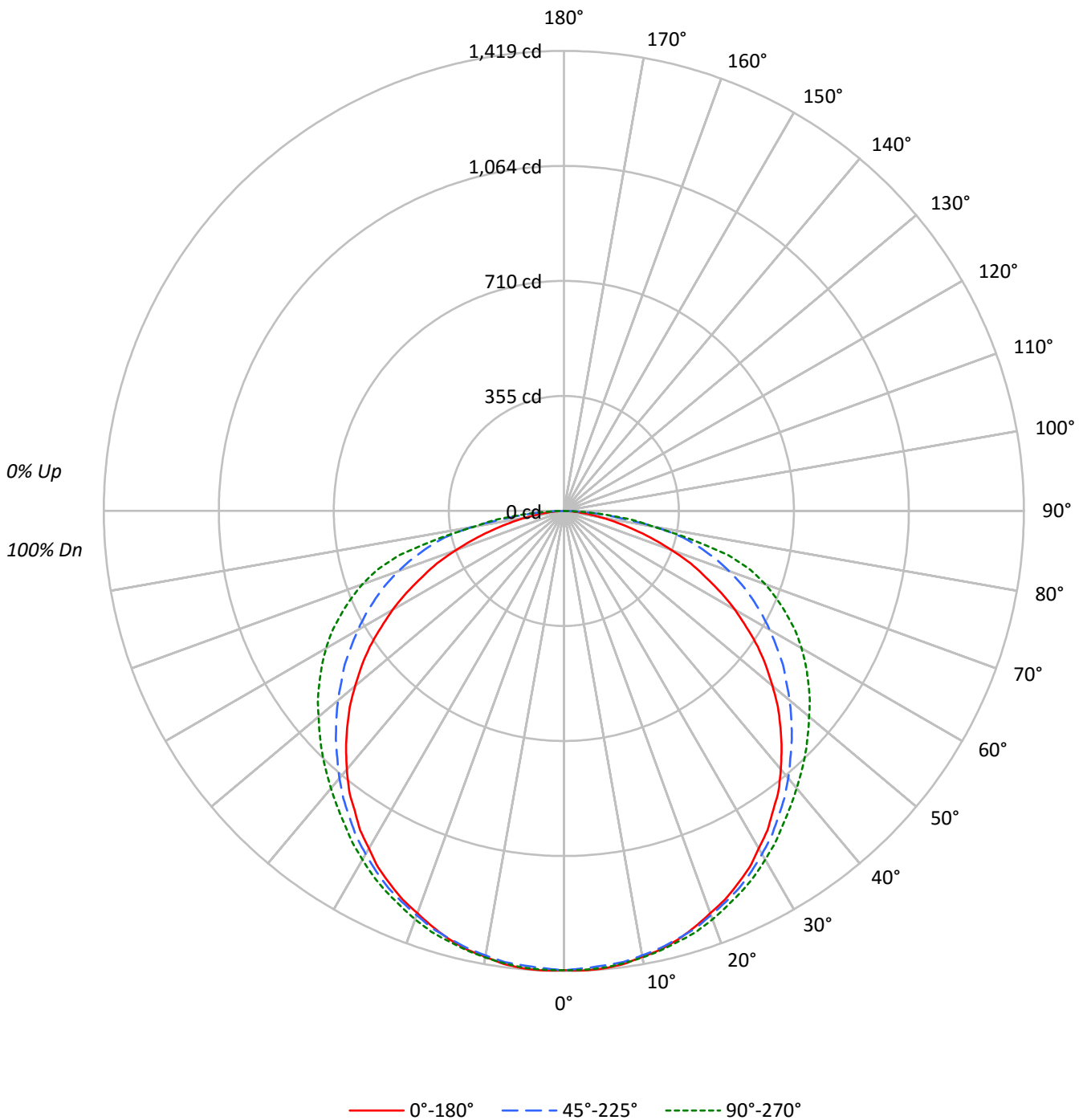
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1906	1906	1906
5°	1913	1901	1910
10°	1908	1902	1911
15°	1904	1901	1914
20°	1890	1900	1919
25°	1884	1904	1924
30°	1867	1899	1930
35°	1849	1894	1938
40°	1829	1891	1962
45°	1798	1892	2007
50°	1758	1903	2067
55°	1714	1934	2159
60°	1641	1972	2278
65°	1536	2041	2418
70°	1397	2136	2602
75°	1185	2253	2718
80°	934	2268	2198
85°	690	1724	1931



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.4	3.0
10°-20°	386.7	8.6
20°-30°	591.3	13.1
30°-40°	722.9	16.0
40°-50°	770.4	17.1
50°-60°	736.6	16.4
60°-70°	624.0	13.9
70°-80°	419.4	9.3
80°-90°	118.3	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°	1112.3	24.7
0°-40°	1835.2	40.7
0°-60°	3342.3	74.2
0°-90°	4504.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4504.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1416	1416	1416	1416	1416	
5°	1416	1414	1407	1414	1414	135
15°	1367	1367	1365	1376	1374	385
25°	1269	1273	1282	1294	1296	585
35°	1126	1135	1153	1175	1180	705
45°	945	961	994	1037	1054	729
55°	730	757	824	889	920	651
65°	483	532	641	726	760	479
75°	228	310	433	507	523	244
85°	45	92	112	121	125	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1416.4	1416.4	1416.4	1416.4	1416.4
2.5°	1418.6	1418.6	1411.9	1416.4	1416.4
5°	1416.4	1414.1	1407.4	1414.1	1414.1
7.5°	1409.7	1407.4	1403.0	1409.7	1407.4
10°	1396.3	1396.3	1391.8	1398.5	1398.5
12.5°	1385.1	1382.9	1380.6	1389.6	1387.3
15°	1367.2	1367.2	1365.0	1376.2	1373.9
17.5°	1344.9	1347.1	1349.4	1358.3	1360.5
20°	1320.3	1324.8	1327.0	1340.4	1340.4
22.5°	1298.0	1300.2	1304.7	1318.1	1318.1
25°	1268.9	1273.4	1282.3	1293.5	1295.7
27.5°	1239.9	1242.1	1253.3	1268.9	1271.2
30°	1201.9	1208.6	1222.0	1239.9	1242.1
32.5°	1168.4	1175.1	1190.7	1208.6	1213.1
35°	1126.0	1134.9	1152.8	1175.1	1179.6
37.5°	1088.0	1094.7	1117.0	1141.6	1148.3
40°	1041.1	1054.5	1076.8	1105.8	1117.0
42.5°	994.1	1007.6	1034.4	1072.3	1085.7
45°	945.0	960.6	994.1	1036.6	1054.5
47.5°	895.8	913.7	951.7	1000.8	1021.0
50°	840.0	862.3	909.3	965.1	987.4
52.5°	786.4	813.2	864.6	927.1	956.2
55°	730.5	757.3	824.4	889.1	920.4
57.5°	668.0	703.7	777.4	851.2	884.7
60°	609.9	643.4	732.8	813.2	846.7
62.5°	547.3	592.0	688.1	773.0	806.5
65°	482.6	531.7	641.2	726.1	759.6
67.5°	424.5	478.1	594.3	679.1	712.7
70°	355.2	422.2	542.9	627.8	661.3
72.5°	290.4	364.1	489.3	571.9	603.2
75°	227.9	310.5	433.4	507.1	522.8
77.5°	169.8	256.9	375.3	406.6	395.4
80°	120.6	205.5	292.7	277.0	283.7
82.5°	78.2	156.4	181.0	205.5	212.2
85°	44.7	91.6	111.7	120.6	125.1
87.5°	20.1	33.5	44.7	44.7	42.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)