

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: P310801

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP250-W2A-U-5000K**

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: P310801
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: 24FCZ2-45HE-UNV-L82765-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5000K 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: 3918.0 lumens
Efficiency: N/A
Efficacy: 113.2 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

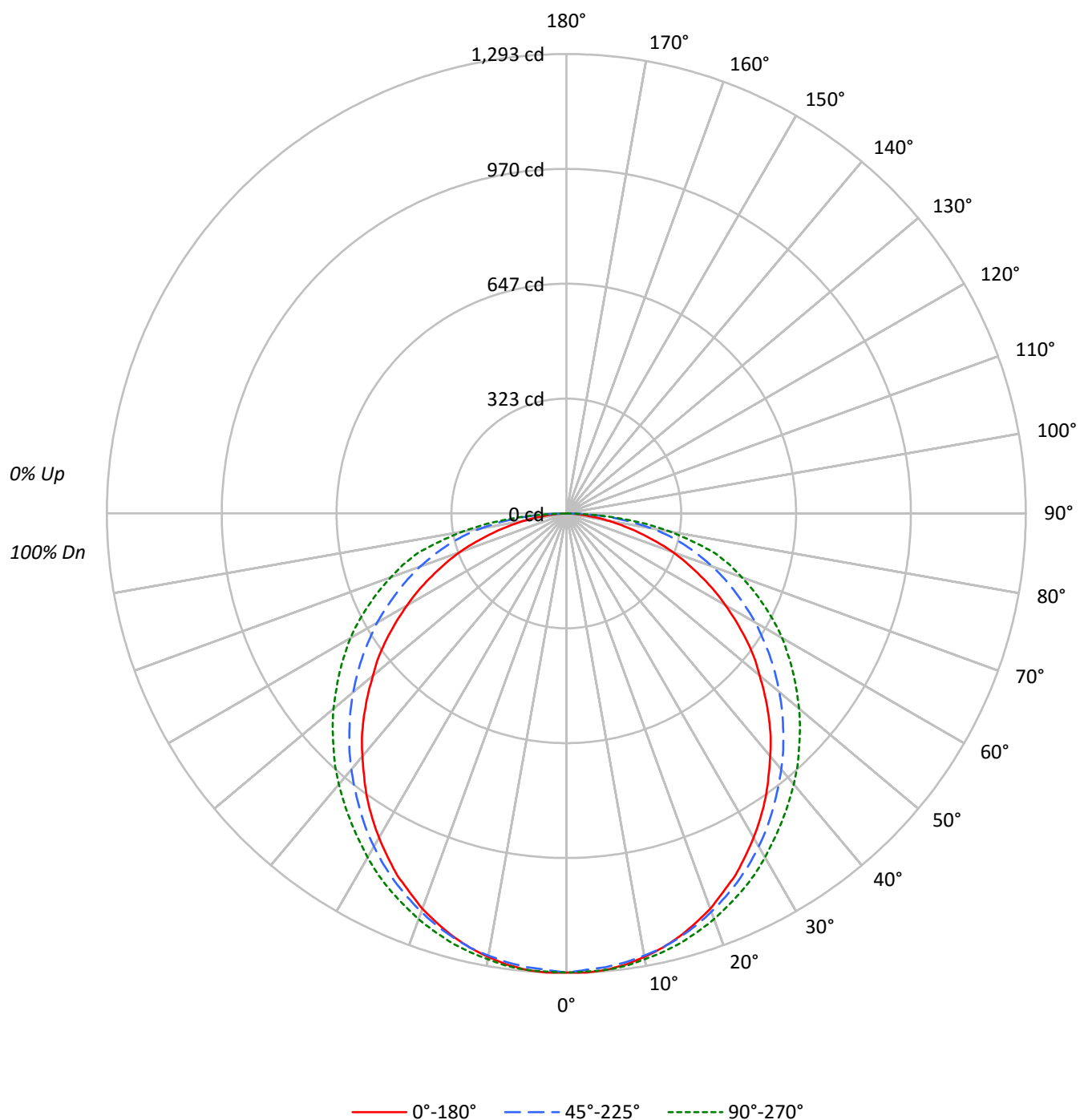
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	97	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°	1739	1739	1739
5°	1742	1731	1742
10°	1732	1726	1740
15°	1717	1720	1742
20°	1696	1709	1740
25°	1669	1696	1739
30°	1638	1682	1737
35°	1606	1665	1738
40°	1568	1653	1749
45°	1531	1642	1764
50°	1486	1638	1790
55°	1449	1641	1827
60°	1392	1655	1889
65°	1329	1672	1958
70°	1258	1723	2066
75°	1122	1798	2257
80°	957	1904	2307
85°	682	1886	2208



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.3	3.1
10°-20°	349.6	8.9
20°-30°	528.1	13.5
30°-40°	636.5	16.2
40°-50°	668.2	17.1
50°-60°	625.2	16.0
60°-70°	516.3	13.2
70°-80°	351.8	9.0
80°-90°	120.0	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°	1000.0	25.5
0°-40°	1636.5	41.8
0°-60°	2929.9	74.8
0°-90°	3918.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3918.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1292	1292	1292	1292	1292	
5°	1290	1288	1282	1290	1290	122
15°	1232	1234	1235	1248	1250	347
25°	1124	1130	1143	1165	1171	517
35°	978	988	1014	1048	1058	611
45°	805	822	863	910	927	621
55°	618	642	699	757	779	551
65°	417	452	525	592	615	414
75°	216	265	346	411	434	230
85°	44	87	122	138	143	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1292.1	1292.1	1292.1	1292.1	1292.1
2.5°	1293.4	1292.1	1285.6	1292.1	1290.8
5°	1289.5	1288.2	1281.7	1289.5	1289.5
7.5°	1280.4	1280.4	1273.9	1283.0	1284.3
10°	1267.4	1267.4	1263.5	1273.9	1273.9
12.5°	1251.8	1251.8	1251.8	1262.2	1263.5
15°	1232.3	1233.6	1234.9	1247.9	1250.5
17.5°	1208.9	1211.5	1215.4	1231.0	1233.6
20°	1184.2	1186.8	1193.3	1211.5	1215.4
22.5°	1153.0	1159.5	1168.6	1189.4	1193.3
25°	1124.4	1129.6	1142.6	1164.7	1171.2
27.5°	1089.3	1097.1	1114.0	1137.4	1146.5
30°	1054.2	1062.0	1082.8	1110.1	1117.9
32.5°	1016.5	1028.2	1050.3	1078.9	1088.0
35°	977.5	987.9	1013.9	1047.7	1058.1
37.5°	934.6	948.9	977.5	1013.9	1026.9
40°	893.0	908.6	941.1	980.1	995.7
42.5°	851.4	867.0	903.4	947.6	963.2
45°	804.7	821.6	863.1	909.9	926.8
47.5°	757.9	778.7	824.2	873.5	891.7
50°	709.8	733.2	782.6	834.5	855.3
52.5°	666.9	689.0	741.0	796.9	816.4
55°	617.5	642.2	699.4	756.6	778.7
57.5°	566.8	594.1	655.2	717.6	739.7
60°	517.4	547.3	614.9	677.3	702.0
62.5°	469.3	499.2	569.4	634.4	659.1
65°	417.3	452.4	525.2	591.5	614.9
67.5°	367.9	405.6	482.3	547.3	570.7
70°	319.8	356.2	438.1	501.8	525.2
72.5°	267.8	309.4	391.3	457.6	482.3
75°	215.8	265.2	345.8	410.8	434.2
77.5°	167.7	218.4	299.0	352.3	364.0
80°	123.5	175.5	245.7	283.4	297.7
82.5°	79.3	131.3	187.2	214.5	226.2
85°	44.2	87.1	122.2	137.8	143.0
87.5°	18.2	37.7	49.4	55.9	55.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)