

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: P310770

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CA125-W2A-U-3000K**

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: P310770
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-CA125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 3000K 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: 3857.0 lumens
Efficiency: N/A
Efficacy: 114.8 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

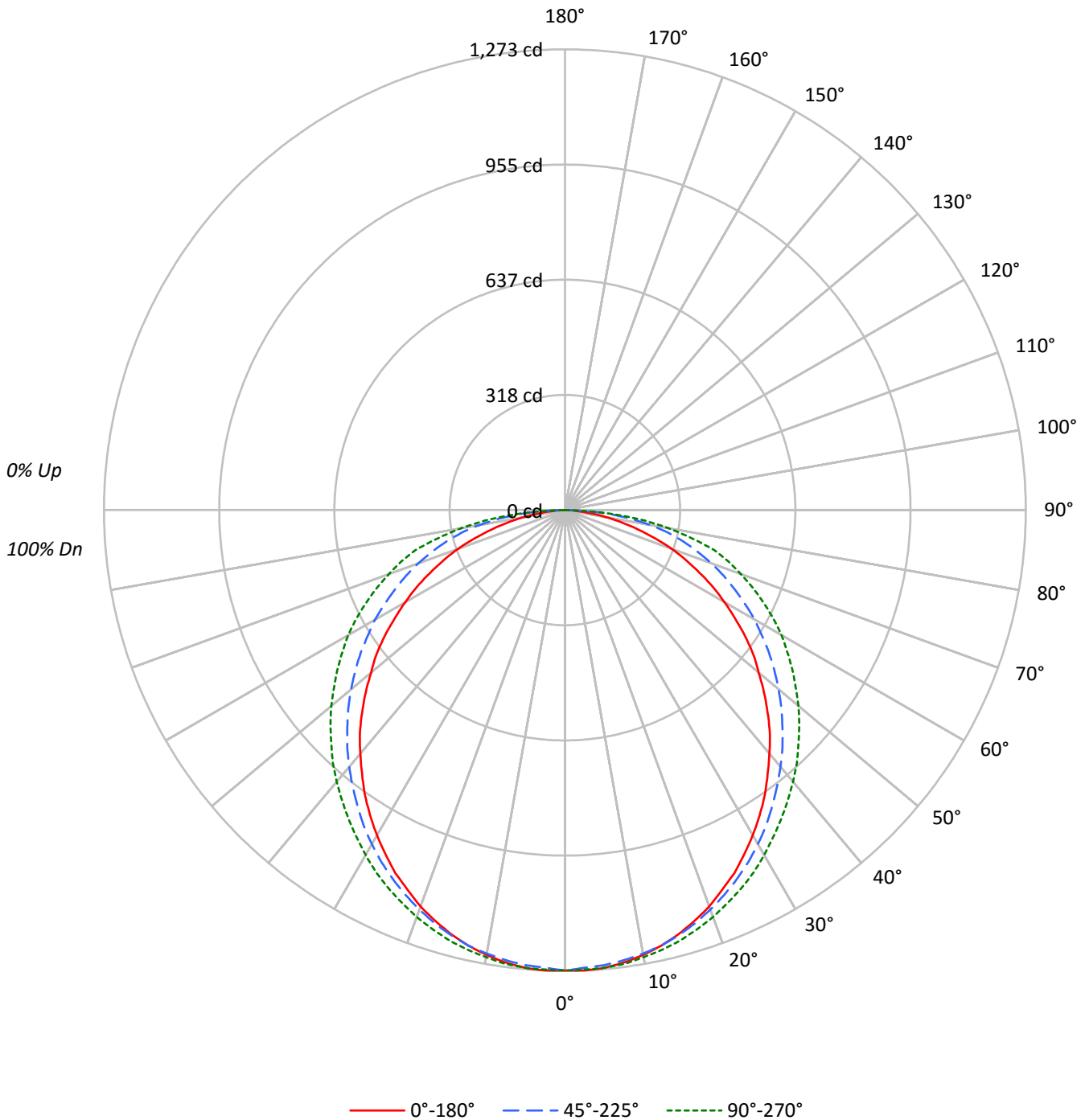
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1711	1711	1711
5°	1714	1704	1714
10°	1705	1699	1713
15°	1690	1693	1715
20°	1669	1682	1713
25°	1643	1670	1712
30°	1612	1656	1710
35°	1581	1640	1711
40°	1544	1627	1722
45°	1507	1617	1736
50°	1463	1613	1762
55°	1426	1615	1798
60°	1371	1629	1859
65°	1308	1646	1927
70°	1238	1697	2034
75°	1104	1770	2222
80°	942	1874	2270
85°	672	1857	2174



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	3.1
10°-20°	344.2	8.9
20°-30°	519.9	13.5
30°-40°	626.6	16.2
40°-50°	657.8	17.1
50°-60°	615.4	16.0
60°-70°	508.2	13.2
70°-80°	346.3	9.0
80°-90°	118.1	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°	984.5	25.5
0°-40°	1611.1	41.8
0°-60°	2884.3	74.8
0°-90°	3857.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3857.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1272	1272	1272	1272	1272	
5°	1269	1268	1262	1269	1269	120
15°	1213	1214	1216	1228	1231	342
25°	1107	1112	1125	1147	1153	509
35°	962	973	998	1031	1042	601
45°	792	809	850	896	912	611
55°	608	632	688	745	766	543
65°	411	445	517	582	605	407
75°	212	261	340	404	427	227
85°	44	86	120	136	141	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1272.0	1272.0	1272.0	1272.0	1272.0
2.5°	1273.3	1272.0	1265.6	1272.0	1270.7
5°	1269.4	1268.2	1261.8	1269.4	1269.4
7.5°	1260.5	1260.5	1254.1	1263.0	1264.3
10°	1247.7	1247.7	1243.9	1254.1	1254.1
12.5°	1232.3	1232.3	1232.3	1242.6	1243.9
15°	1213.1	1214.4	1215.7	1228.5	1231.1
17.5°	1190.1	1192.7	1196.5	1211.9	1214.4
20°	1165.8	1168.4	1174.7	1192.7	1196.5
22.5°	1135.1	1141.5	1150.4	1170.9	1174.7
25°	1106.9	1112.0	1124.8	1146.6	1153.0
27.5°	1072.4	1080.1	1096.7	1119.7	1128.7
30°	1037.8	1045.5	1066.0	1092.8	1100.5
32.5°	1000.7	1012.2	1034.0	1062.1	1071.1
35°	962.3	972.6	998.2	1031.4	1041.7
37.5°	920.1	934.2	962.3	998.2	1010.9
40°	879.1	894.5	926.5	964.9	980.2
42.5°	838.2	853.5	889.4	932.9	948.2
45°	792.1	808.8	849.7	895.8	912.4
47.5°	746.1	766.5	811.3	859.9	877.9
50°	698.7	721.7	770.4	821.6	842.0
52.5°	656.5	678.2	729.4	784.4	803.6
55°	607.8	632.2	688.5	744.8	766.5
57.5°	557.9	584.8	645.0	706.4	728.1
60°	509.3	538.7	605.3	666.7	691.0
62.5°	462.0	491.4	560.5	624.5	648.8
65°	410.8	445.3	517.0	582.3	605.3
67.5°	362.2	399.3	474.8	538.7	561.8
70°	314.8	350.6	431.3	494.0	517.0
72.5°	263.6	304.6	385.2	450.4	474.8
75°	212.4	261.1	340.4	404.4	427.4
77.5°	165.1	215.0	294.3	346.8	358.3
80°	121.6	172.8	241.9	279.0	293.0
82.5°	78.1	129.2	184.3	211.1	222.7
85°	43.5	85.7	120.3	135.6	140.8
87.5°	17.9	37.1	48.6	55.0	55.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)