

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: P310773

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CA125-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: P310773
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-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 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: 4151.0 lumens
Efficiency: N/A
Efficacy: 120.7 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

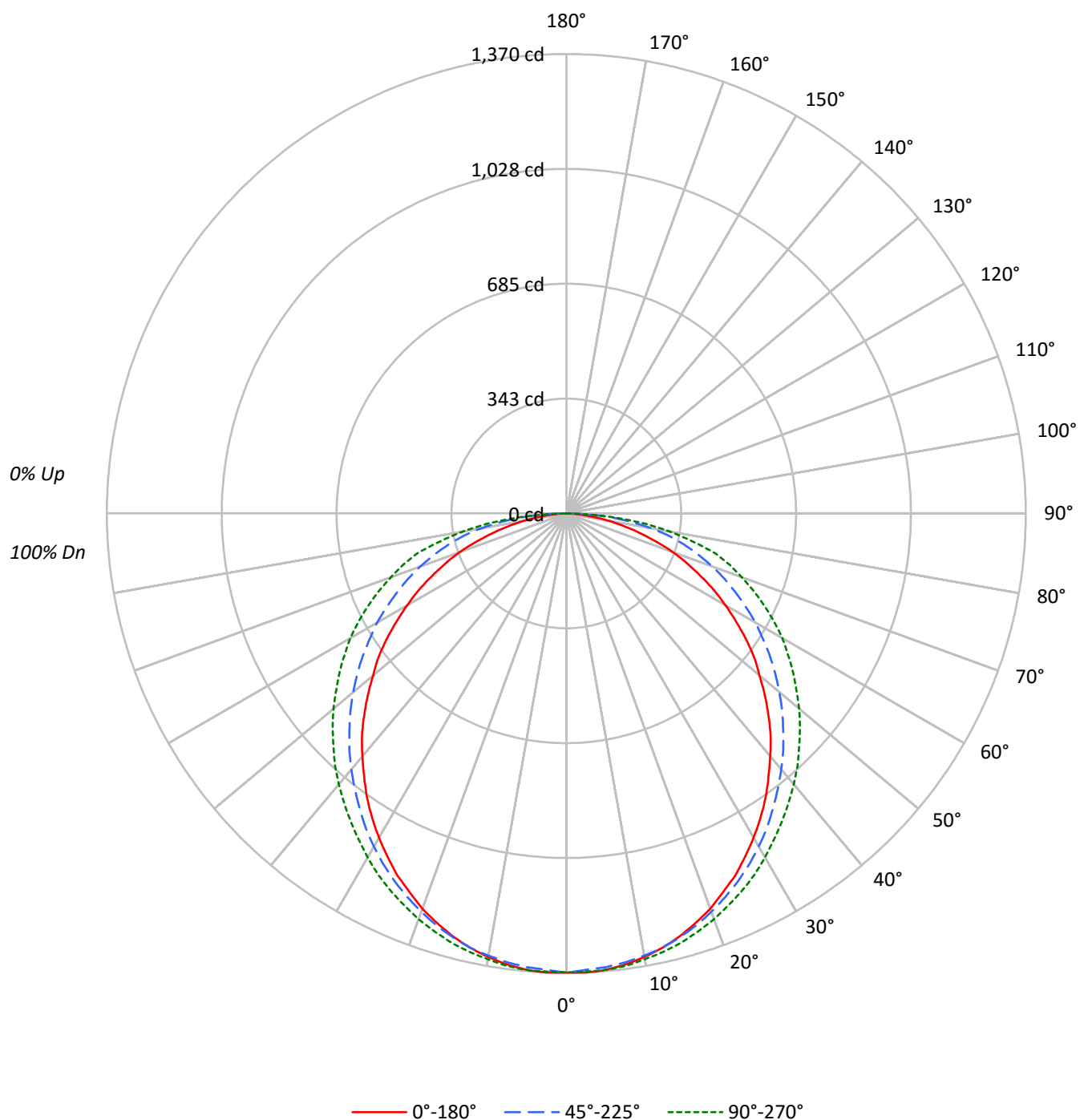
Input Watts (W): 34.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1842	1842	1842
5°	1845	1834	1845
10°	1835	1829	1844
15°	1819	1823	1846
20°	1797	1810	1844
25°	1769	1797	1842
30°	1735	1782	1840
35°	1701	1764	1841
40°	1662	1751	1853
45°	1622	1740	1869
50°	1574	1735	1897
55°	1535	1738	1935
60°	1475	1753	2001
65°	1408	1771	2074
70°	1333	1826	2189
75°	1188	1904	2391
80°	1013	2017	2444
85°	722	1999	2339



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.6	3.1
10°-20°	370.5	8.9
20°-30°	559.5	13.5
30°-40°	674.4	16.2
40°-50°	708.0	17.1
50°-60°	662.3	16.0
60°-70°	547.0	13.2
70°-80°	372.7	9.0
80°-90°	127.1	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°	1059.5	25.5
0°-40°	1733.9	41.8
0°-60°	3104.2	74.8
0°-90°	4151.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4151.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1369	1369	1369	1369	1369	
5°	1366	1365	1358	1366	1366	130
15°	1306	1307	1308	1322	1325	368
25°	1191	1197	1211	1234	1241	548
35°	1036	1047	1074	1110	1121	647
45°	852	870	914	964	982	657
55°	654	680	741	802	825	584
65°	442	479	556	627	651	439
75°	229	281	366	435	460	244
85°	47	92	130	146	152	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1369.0	1369.0	1369.0	1369.0	1369.0
2.5°	1370.3	1369.0	1362.1	1369.0	1367.6
5°	1366.2	1364.8	1357.9	1366.2	1366.2
7.5°	1356.6	1356.6	1349.7	1359.3	1360.7
10°	1342.8	1342.8	1338.7	1349.7	1349.7
12.5°	1326.3	1326.3	1326.3	1337.3	1338.7
15°	1305.6	1307.0	1308.4	1322.1	1324.9
17.5°	1280.8	1283.6	1287.7	1304.2	1307.0
20°	1254.7	1257.4	1264.3	1283.6	1287.7
22.5°	1221.6	1228.5	1238.1	1260.2	1264.3
25°	1191.3	1196.8	1210.6	1234.0	1240.9
27.5°	1154.1	1162.4	1180.3	1205.1	1214.7
30°	1116.9	1125.2	1147.2	1176.2	1184.4
32.5°	1077.0	1089.4	1112.8	1143.1	1152.7
35°	1035.7	1046.7	1074.2	1110.0	1121.1
37.5°	990.2	1005.4	1035.7	1074.2	1088.0
40°	946.2	962.7	997.1	1038.4	1055.0
42.5°	902.1	918.6	957.2	1004.0	1020.5
45°	852.5	870.4	914.5	964.1	982.0
47.5°	802.9	825.0	873.2	925.5	944.8
50°	752.0	776.8	829.1	884.2	906.2
52.5°	706.5	729.9	785.0	844.2	864.9
55°	654.2	680.4	740.9	801.5	825.0
57.5°	600.5	629.4	694.1	760.2	783.6
60°	548.1	579.8	651.4	717.5	743.7
62.5°	497.2	528.9	603.2	672.1	698.3
65°	442.1	479.3	556.4	626.6	651.4
67.5°	389.8	429.7	511.0	579.8	604.6
70°	338.8	377.4	464.1	531.6	556.4
72.5°	283.7	327.8	414.5	484.8	511.0
75°	228.6	281.0	366.3	435.2	460.0
77.5°	177.7	231.4	316.8	373.2	385.6
80°	130.8	185.9	260.3	300.2	315.4
82.5°	84.0	139.1	198.3	227.2	239.6
85°	46.8	92.3	129.5	146.0	151.5
87.5°	19.3	39.9	52.3	59.2	59.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)