

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: P314324

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-CA125-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: P314324
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-L83050-S-CA125-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC 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: 4551.0 lumens
Efficiency: N/A
Efficacy: 128.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

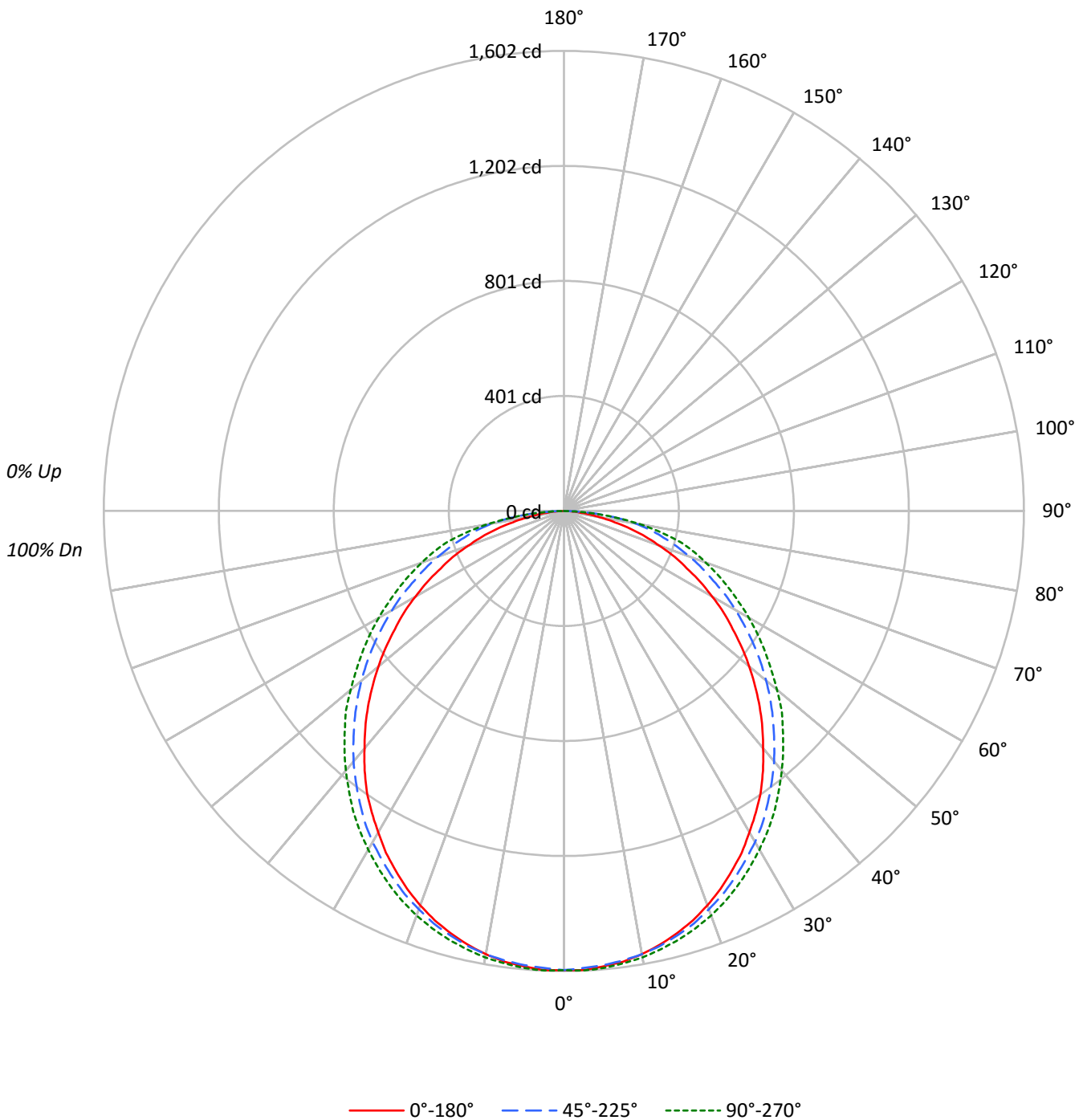
Input Watts (W): 35.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2151	2151	2151
5°	2150	2144	2157
10°	2141	2141	2157
15°	2120	2130	2153
20°	2093	2113	2146
25°	2054	2092	2133
30°	2008	2069	2116
35°	1964	2035	2099
40°	1897	2001	2074
45°	1835	1961	2052
50°	1764	1924	2027
55°	1685	1889	2008
60°	1607	1859	2003
65°	1505	1827	2016
70°	1393	1837	2070
75°	1248	1871	2187
80°	1008	1983	2139
85°	758	1741	1697



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.4	3.3
10°-20°	432.5	9.5
20°-30°	650.1	14.3
30°-40°	774.4	17.0
40°-50°	792.6	17.4
50°-60°	713.5	15.7
60°-70°	560.4	12.3
70°-80°	363.7	8.0
80°-90°	112.5	2.5
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°	1234.0	27.1
0°-40°	2008.4	44.1
0°-60°	3514.5	77.2
0°-90°	4551.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4551.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1599	1599	1599	1599	1599	
5°	1592	1594	1587	1596	1597	151
15°	1522	1526	1529	1542	1545	429
25°	1383	1395	1409	1433	1437	637
35°	1196	1210	1239	1269	1278	746
45°	964	987	1031	1070	1078	743
55°	718	750	805	847	856	644
65°	473	509	574	622	633	471
75°	240	286	360	409	421	254
85°	49	91	113	110	110	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1598.8	1598.8	1598.8	1598.8	1598.8
2.5°	1600.2	1600.2	1593.0	1600.2	1601.7
5°	1591.6	1594.5	1587.2	1595.9	1597.4
7.5°	1582.9	1582.9	1578.6	1587.2	1588.7
10°	1567.0	1568.4	1567.0	1577.1	1578.6
12.5°	1546.8	1549.6	1551.1	1561.2	1562.7
15°	1522.2	1526.5	1529.4	1542.4	1545.3
17.5°	1494.7	1499.1	1506.3	1520.7	1523.6
20°	1461.5	1467.2	1475.9	1494.7	1499.1
22.5°	1425.3	1431.1	1445.6	1462.9	1470.1
25°	1383.4	1395.0	1409.4	1432.6	1436.9
27.5°	1341.5	1351.6	1370.4	1395.0	1400.8
30°	1292.3	1308.2	1331.4	1355.9	1361.7
32.5°	1244.6	1260.5	1288.0	1314.0	1321.2
35°	1195.5	1209.9	1238.9	1269.2	1277.9
37.5°	1139.1	1157.9	1189.7	1220.1	1228.7
40°	1079.8	1103.0	1139.1	1170.9	1181.0
42.5°	1023.5	1048.0	1084.2	1118.9	1130.4
45°	964.2	987.3	1030.7	1069.7	1078.4
47.5°	903.5	929.5	975.8	1014.8	1029.2
50°	842.8	870.2	919.4	959.9	968.5
52.5°	782.1	811.0	863.0	906.4	910.7
55°	718.4	750.2	805.2	847.1	855.8
57.5°	660.6	688.1	747.4	790.7	800.8
60°	597.0	627.4	691.0	731.5	744.5
62.5°	536.3	568.1	634.6	675.1	686.6
65°	472.7	508.8	573.9	621.6	633.2
67.5°	417.8	452.5	521.8	568.1	579.7
70°	354.2	393.2	466.9	514.6	526.2
72.5°	299.2	339.7	413.4	459.7	477.0
75°	240.0	286.2	359.9	409.1	420.7
77.5°	182.1	235.6	310.8	348.4	348.4
80°	130.1	186.5	255.9	273.2	276.1
82.5°	85.3	140.2	189.4	187.9	187.9
85°	49.1	91.1	112.8	109.9	109.9
87.5°	18.8	37.6	40.5	40.5	39.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)