

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: P310798

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-CP250-W2A-U-3500K**

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: P310798
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-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 3716.0 lumens
Efficiency: N/A
Efficacy: 109.3 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

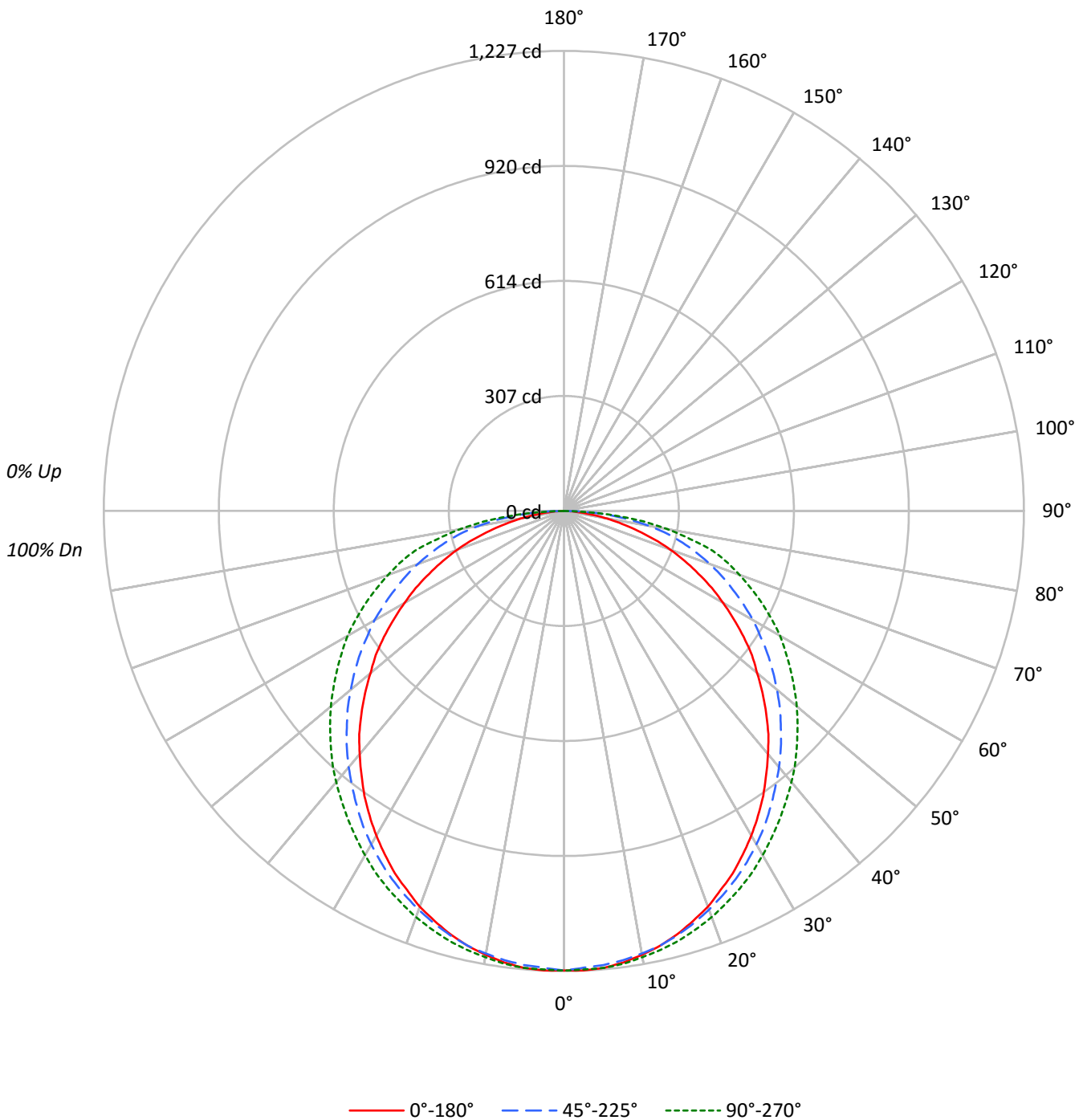
Input Watts (W): 34
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1649	1649	1649
5°	1652	1642	1652
10°	1642	1637	1651
15°	1628	1632	1652
20°	1608	1621	1651
25°	1583	1609	1649
30°	1553	1596	1647
35°	1523	1580	1648
40°	1488	1568	1659
45°	1452	1558	1673
50°	1409	1554	1698
55°	1374	1556	1732
60°	1320	1569	1792
65°	1260	1586	1857
70°	1193	1635	1959
75°	1064	1705	2141
80°	907	1805	2187
85°	647	1789	2093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.0	3.1
10°-20°	331.6	8.9
20°-30°	500.9	13.5
30°-40°	603.7	16.2
40°-50°	633.8	17.1
50°-60°	592.9	16.0
60°-70°	489.7	13.2
70°-80°	333.7	9.0
80°-90°	113.8	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°	948.5	25.5
0°-40°	1552.2	41.8
0°-60°	2778.9	74.8
0°-90°	3716.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3716.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1226	1226	1226	1226	1226	
5°	1223	1222	1216	1223	1223	116
15°	1169	1170	1171	1184	1186	329
25°	1066	1071	1084	1105	1111	491
35°	927	937	962	994	1004	579
45°	763	779	819	863	879	589
55°	586	609	663	718	738	523
65°	396	429	498	561	583	393
75°	205	252	328	390	412	218
85°	42	83	116	131	136	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1225.5	1225.5	1225.5	1225.5	1225.5
2.5°	1226.7	1225.5	1219.3	1225.5	1224.3
5°	1223.0	1221.8	1215.6	1223.0	1223.0
7.5°	1214.4	1214.4	1208.2	1216.9	1218.1
10°	1202.1	1202.1	1198.4	1208.2	1208.2
12.5°	1187.3	1187.3	1187.3	1197.1	1198.4
15°	1168.8	1170.0	1171.3	1183.6	1186.1
17.5°	1146.6	1149.1	1152.8	1167.6	1170.0
20°	1123.2	1125.6	1131.8	1149.1	1152.8
22.5°	1093.6	1099.7	1108.4	1128.1	1131.8
25°	1066.5	1071.4	1083.7	1104.7	1110.8
27.5°	1033.2	1040.6	1056.6	1078.8	1087.4
30°	999.9	1007.3	1027.0	1052.9	1060.3
32.5°	964.1	975.2	996.2	1023.3	1031.9
35°	927.1	937.0	961.7	993.7	1003.6
37.5°	886.5	900.0	927.1	961.7	974.0
40°	847.0	861.8	892.6	929.6	944.4
42.5°	807.6	822.3	856.9	898.8	913.6
45°	763.2	779.2	818.6	863.0	879.1
47.5°	718.8	738.5	781.7	828.5	845.8
50°	673.2	695.4	742.2	791.5	811.2
52.5°	632.5	653.4	702.8	755.8	774.3
55°	585.6	609.1	663.3	717.5	738.5
57.5°	537.5	563.4	621.4	680.6	701.5
60°	490.7	519.1	583.2	642.3	665.8
62.5°	445.1	473.4	540.0	601.7	625.1
65°	395.8	429.0	498.1	561.0	583.2
67.5°	348.9	384.7	457.4	519.1	541.2
70°	303.3	337.8	415.5	475.9	498.1
72.5°	254.0	293.4	371.1	434.0	457.4
75°	204.7	251.5	328.0	389.6	411.8
77.5°	159.0	207.1	283.6	334.1	345.2
80°	117.1	166.4	233.0	268.8	282.3
82.5°	75.2	124.5	177.5	203.4	214.5
85°	41.9	82.6	115.9	130.7	135.6
87.5°	17.3	35.8	46.9	53.0	53.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)