

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: P311022

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP250-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: P311022
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: 24FCZ2-60HE-UNV-L82765-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB 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: 4832.0 lumens
Efficiency: N/A
Efficacy: 102.2 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

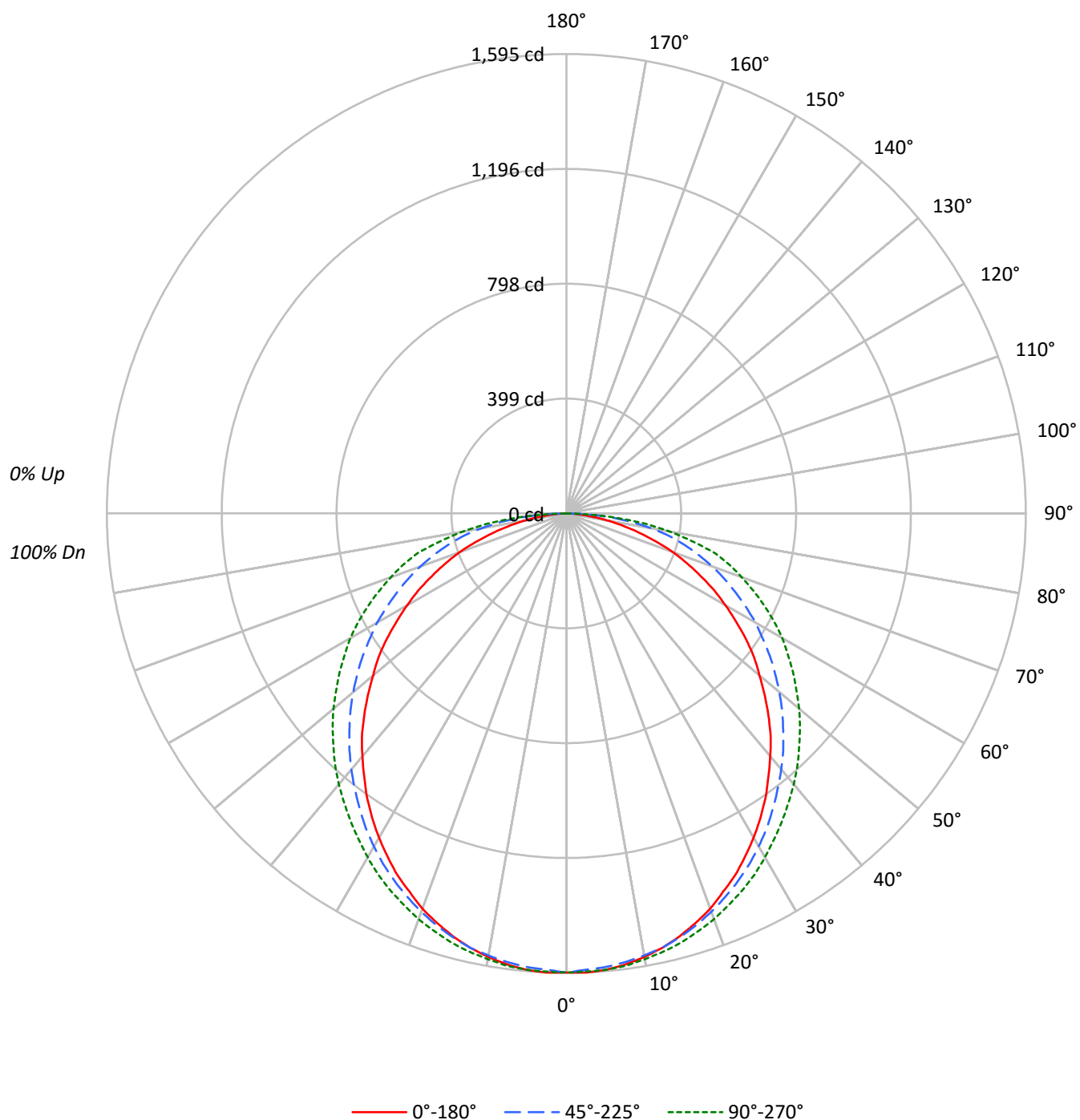
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2144	2144	2144
5°	2148	2135	2148
10°	2136	2129	2147
15°	2117	2121	2148
20°	2091	2107	2146
25°	2059	2092	2144
30°	2020	2075	2142
35°	1980	2054	2144
40°	1935	2039	2157
45°	1888	2026	2175
50°	1832	2020	2208
55°	1786	2023	2253
60°	1717	2041	2330
65°	1638	2062	2414
70°	1552	2126	2548
75°	1383	2217	2784
80°	1180	2348	2844
85°	841	2326	2722



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.8	3.1
10°-20°	431.2	8.9
20°-30°	651.3	13.5
30°-40°	785.0	16.2
40°-50°	824.1	17.1
50°-60°	771.0	16.0
60°-70°	636.7	13.2
70°-80°	433.9	9.0
80°-90°	148.0	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°	1233.4	25.5
0°-40°	2018.4	41.8
0°-60°	3613.5	74.8
0°-90°	4832.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4832.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1594	1594	1594	1594	1594	
5°	1590	1589	1581	1590	1590	151
15°	1520	1521	1523	1539	1542	428
25°	1387	1393	1409	1436	1444	638
35°	1206	1218	1250	1292	1305	753
45°	992	1013	1064	1122	1143	765
55°	762	792	862	933	960	680
65°	515	558	648	729	758	510
75°	266	327	426	507	536	284
85°	54	107	151	170	176	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1593.6	1593.6	1593.6	1593.6	1593.6
2.5°	1595.2	1593.6	1585.5	1593.6	1591.9
5°	1590.3	1588.7	1580.7	1590.3	1590.3
7.5°	1579.1	1579.1	1571.1	1582.3	1583.9
10°	1563.1	1563.1	1558.3	1571.1	1571.1
12.5°	1543.9	1543.9	1543.9	1556.7	1558.3
15°	1519.8	1521.4	1523.0	1539.0	1542.3
17.5°	1490.9	1494.2	1499.0	1518.2	1521.4
20°	1460.5	1463.7	1471.7	1494.2	1499.0
22.5°	1422.0	1430.0	1441.3	1466.9	1471.7
25°	1386.7	1393.2	1409.2	1436.4	1444.5
27.5°	1343.5	1353.1	1373.9	1402.8	1414.0
30°	1300.2	1309.8	1335.4	1369.1	1378.7
32.5°	1253.7	1268.1	1295.4	1330.6	1341.9
35°	1205.6	1218.4	1250.5	1292.2	1305.0
37.5°	1152.7	1170.3	1205.6	1250.5	1266.5
40°	1101.4	1120.6	1160.7	1208.8	1228.0
42.5°	1050.1	1069.3	1114.2	1168.7	1187.9
45°	992.4	1013.2	1064.5	1122.2	1143.1
47.5°	934.6	960.3	1016.4	1077.3	1099.8
50°	875.3	904.2	965.1	1029.2	1054.9
52.5°	822.4	849.7	913.8	982.7	1006.8
55°	761.5	792.0	862.5	933.0	960.3
57.5°	699.0	732.6	808.0	885.0	912.2
60°	638.1	674.9	758.3	835.3	865.7
62.5°	578.7	615.6	702.2	782.3	812.8
65°	514.6	557.9	647.7	729.4	758.3
67.5°	453.7	500.2	594.8	674.9	703.8
70°	394.4	439.3	540.3	618.8	647.7
72.5°	330.3	381.6	482.6	564.3	594.8
75°	266.1	327.0	426.4	506.6	535.5
77.5°	206.8	269.3	368.7	434.5	448.9
80°	152.3	216.4	303.0	349.5	367.1
82.5°	97.8	161.9	230.9	264.5	279.0
85°	54.5	107.4	150.7	169.9	176.3
87.5°	22.4	46.5	60.9	68.9	68.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)