

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: P311004

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP125-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: P311004
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-CP125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 5087.0 lumens
Efficiency: N/A
Efficacy: 107.5 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

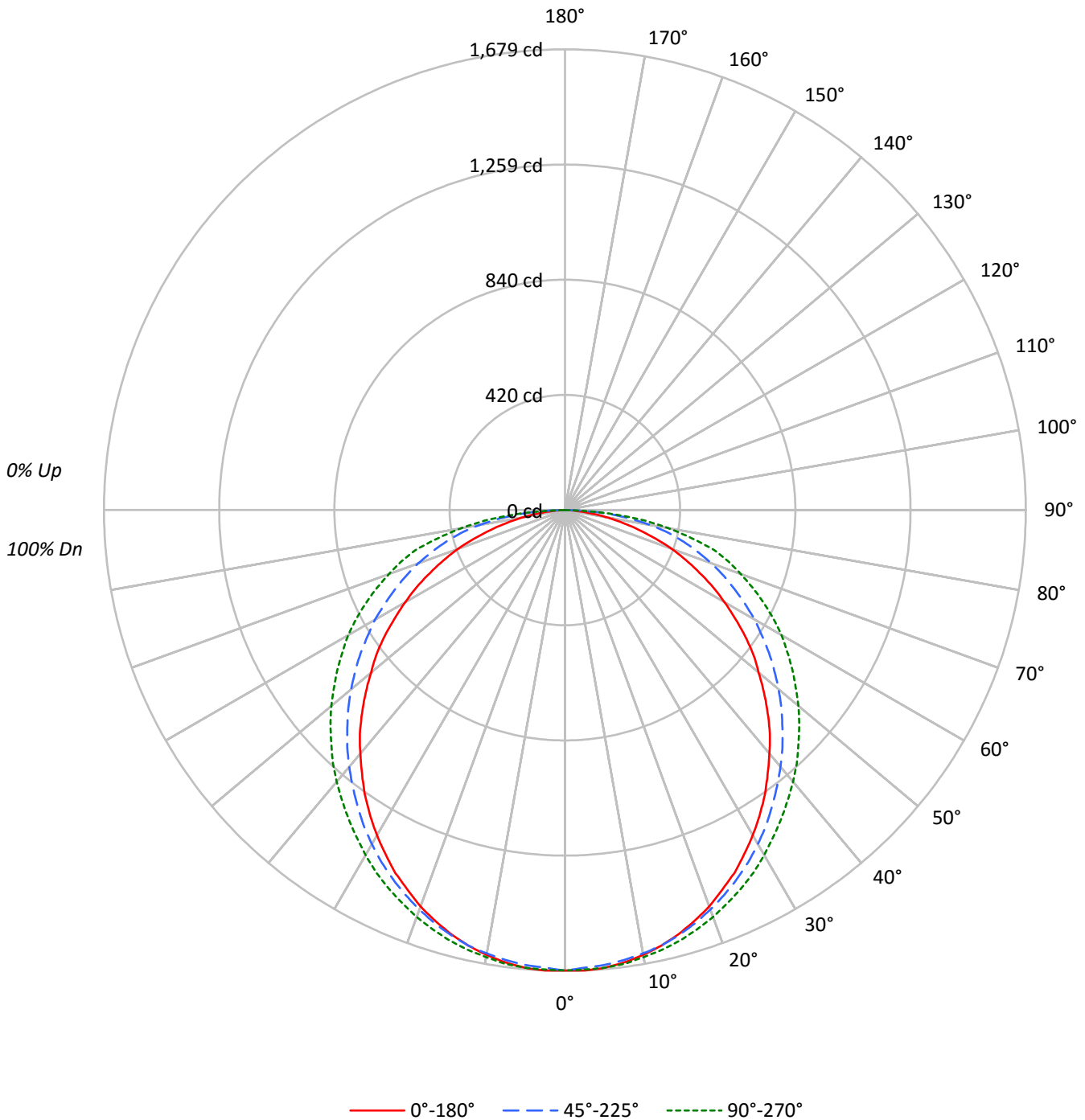
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2257	2257	2257
5°	2261	2248	2261
10°	2248	2241	2260
15°	2229	2233	2262
20°	2202	2218	2260
25°	2167	2203	2258
30°	2127	2184	2255
35°	2085	2162	2257
40°	2037	2146	2271
45°	1988	2132	2290
50°	1929	2127	2325
55°	1881	2130	2372
60°	1808	2148	2453
65°	1725	2171	2542
70°	1633	2238	2683
75°	1457	2334	2930
80°	1242	2472	2995
85°	886	2450	2867



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.8	3.1
10°-20°	454.0	8.9
20°-30°	685.7	13.5
30°-40°	826.4	16.2
40°-50°	867.6	17.1
50°-60°	811.7	16.0
60°-70°	670.3	13.2
70°-80°	456.8	9.0
80°-90°	155.8	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°	1298.5	25.5
0°-40°	2124.9	41.8
0°-60°	3804.2	74.8
0°-90°	5087.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5087.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1678	1678	1678	1678	1678	
5°	1674	1673	1664	1674	1674	159
15°	1600	1602	1603	1620	1624	451
25°	1460	1467	1484	1512	1521	672
35°	1269	1283	1316	1360	1374	793
45°	1045	1067	1121	1181	1203	806
55°	802	834	908	982	1011	716
65°	542	587	682	768	798	537
75°	280	344	449	533	564	299
85°	57	113	159	179	186	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1677.6	1677.6	1677.6	1677.6	1677.6
2.5°	1679.3	1677.6	1669.2	1677.6	1676.0
5°	1674.3	1672.6	1664.1	1674.3	1674.3
7.5°	1662.5	1662.5	1654.0	1665.8	1667.5
10°	1645.6	1645.6	1640.5	1654.0	1654.0
12.5°	1625.3	1625.3	1625.3	1638.8	1640.5
15°	1600.0	1601.7	1603.4	1620.3	1623.6
17.5°	1569.6	1573.0	1578.1	1598.3	1601.7
20°	1537.6	1540.9	1549.4	1573.0	1578.1
22.5°	1497.1	1505.5	1517.3	1544.3	1549.4
25°	1459.9	1466.7	1483.6	1512.2	1520.7
27.5°	1414.4	1424.5	1446.4	1476.8	1488.6
30°	1368.8	1378.9	1405.9	1441.4	1451.5
32.5°	1319.8	1335.0	1363.7	1400.9	1412.7
35°	1269.2	1282.7	1316.5	1360.3	1373.8
37.5°	1213.5	1232.1	1269.2	1316.5	1333.3
40°	1159.5	1179.8	1221.9	1272.6	1292.8
42.5°	1105.5	1125.7	1173.0	1230.4	1250.6
45°	1044.7	1066.7	1120.7	1181.4	1203.4
47.5°	984.0	1011.0	1070.0	1134.2	1157.8
50°	921.5	951.9	1016.0	1083.6	1110.6
52.5°	865.8	894.5	962.0	1034.6	1059.9
55°	801.7	833.8	908.0	982.3	1011.0
57.5°	735.9	771.3	850.6	931.7	960.3
60°	671.7	710.6	798.3	879.3	911.4
62.5°	609.3	648.1	739.2	823.6	855.7
65°	541.8	587.3	681.9	767.9	798.3
67.5°	477.6	526.6	626.2	710.6	740.9
70°	415.2	462.5	568.8	651.5	681.9
72.5°	347.7	401.7	508.0	594.1	626.2
75°	280.2	344.3	448.9	533.3	563.7
77.5°	217.7	283.5	388.2	457.4	472.6
80°	160.3	227.8	319.0	367.9	386.5
82.5°	103.0	170.5	243.0	278.5	293.7
85°	57.4	113.1	158.7	178.9	185.7
87.5°	23.6	48.9	64.1	72.6	72.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)