

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: P311005

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP125-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: P311005
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-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 5262.0 lumens
Efficiency: N/A
Efficacy: 110.1 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

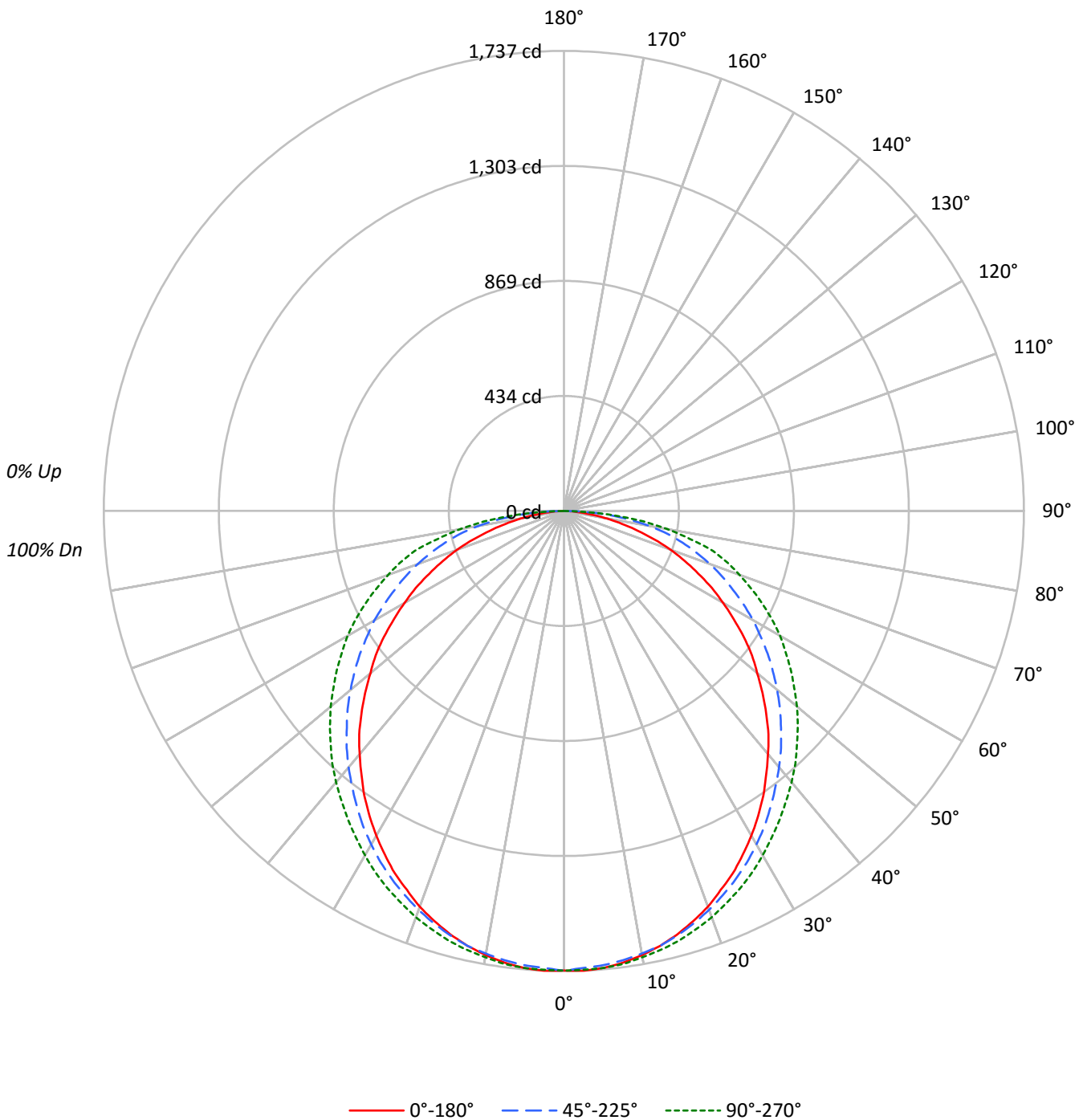
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2335	2335	2335
5°	2339	2325	2339
10°	2326	2319	2338
15°	2305	2310	2339
20°	2277	2295	2337
25°	2242	2278	2335
30°	2200	2259	2333
35°	2156	2237	2334
40°	2107	2220	2349
45°	2056	2206	2369
50°	1995	2200	2405
55°	1945	2203	2453
60°	1870	2222	2537
65°	1784	2245	2629
70°	1690	2314	2775
75°	1507	2414	3031
80°	1285	2557	3098
85°	917	2533	2964



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.2	3.1
10°-20°	469.6	8.9
20°-30°	709.3	13.5
30°-40°	854.9	16.2
40°-50°	897.5	17.1
50°-60°	839.6	16.0
60°-70°	693.4	13.2
70°-80°	472.5	9.0
80°-90°	161.1	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°	1343.1	25.5
0°-40°	2198.0	41.8
0°-60°	3935.0	74.8
0°-90°	5262.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5262.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1735	1735	1735	1735	1735	
5°	1732	1730	1721	1732	1732	164
15°	1655	1657	1658	1676	1680	467
25°	1510	1517	1535	1564	1573	695
35°	1313	1327	1362	1407	1421	820
45°	1081	1103	1159	1222	1245	833
55°	829	862	939	1016	1046	740
65°	560	608	705	794	826	556
75°	290	356	464	552	583	309
85°	59	117	164	185	192	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1735.4	1735.4	1735.4	1735.4	1735.4
2.5°	1737.1	1735.4	1726.6	1735.4	1733.6
5°	1731.9	1730.1	1721.4	1731.9	1731.9
7.5°	1719.6	1719.6	1710.9	1723.1	1724.9
10°	1702.2	1702.2	1697.0	1710.9	1710.9
12.5°	1681.2	1681.2	1681.2	1695.2	1697.0
15°	1655.1	1656.8	1658.5	1676.0	1679.5
17.5°	1623.6	1627.1	1632.4	1653.3	1656.8
20°	1590.5	1593.9	1602.7	1627.1	1632.4
22.5°	1548.6	1557.3	1569.5	1597.4	1602.7
25°	1510.1	1517.1	1534.6	1564.3	1573.0
27.5°	1463.0	1473.5	1496.2	1527.6	1539.8
30°	1415.9	1426.3	1454.3	1490.9	1501.4
32.5°	1365.2	1381.0	1410.6	1449.0	1461.3
35°	1312.9	1326.8	1361.8	1407.1	1421.1
37.5°	1255.3	1274.5	1312.9	1361.8	1379.2
40°	1199.4	1220.3	1264.0	1316.4	1337.3
42.5°	1143.5	1164.5	1213.4	1272.7	1293.7
45°	1080.7	1103.4	1159.2	1222.1	1244.8
47.5°	1017.8	1045.8	1106.9	1173.2	1197.6
50°	953.2	984.7	1051.0	1120.8	1148.8
52.5°	895.6	925.3	995.1	1070.2	1096.4
55°	829.3	862.4	939.3	1016.1	1045.8
57.5°	761.2	797.8	879.9	963.7	993.4
60°	694.8	735.0	825.8	909.6	942.8
62.5°	630.2	670.4	764.7	852.0	885.1
65°	560.4	607.6	705.3	794.4	825.8
67.5°	494.1	544.7	647.7	735.0	766.4
70°	429.5	478.4	588.3	673.9	705.3
72.5°	359.6	415.5	525.5	614.5	647.7
75°	289.8	356.2	464.4	551.7	583.1
77.5°	225.2	293.3	401.5	473.1	488.8
80°	165.9	235.7	330.0	380.6	399.8
82.5°	106.5	176.3	251.4	288.1	303.8
85°	59.4	117.0	164.1	185.1	192.0
87.5°	24.4	50.6	66.3	75.1	75.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)