

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: P309645

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CA125-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: P309645
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-HRP-CA125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC 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: 3936.0 lumens
Efficiency: N/A
Efficacy: 83.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

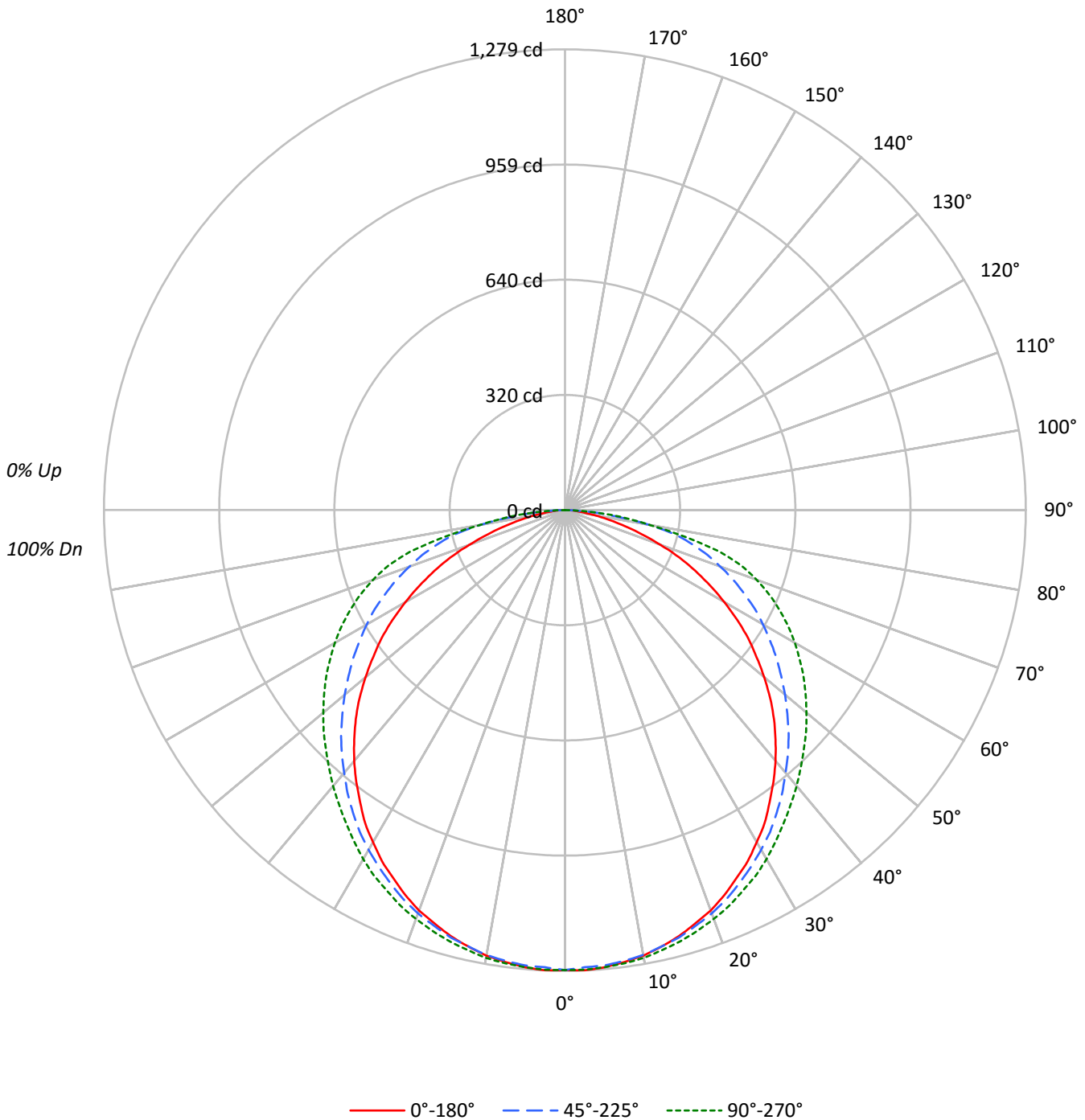
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1718	1718	1718
5°	1720	1714	1720
10°	1715	1713	1724
15°	1705	1710	1726
20°	1694	1706	1729
25°	1673	1698	1732
30°	1654	1692	1738
35°	1627	1683	1740
40°	1598	1673	1757
45°	1561	1671	1784
50°	1511	1669	1832
55°	1457	1681	1898
60°	1375	1707	1982
65°	1270	1747	2093
70°	1109	1808	2230
75°	899	1902	2305
80°	664	1864	1864
85°	509	1374	1551



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.0	3.1
10°-20°	347.4	8.8
20°-30°	528.9	13.4
30°-40°	642.2	16.3
40°-50°	678.5	17.2
50°-60°	640.2	16.3
60°-70°	532.3	13.5
70°-80°	350.2	8.9
80°-90°	95.5	2.4
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°	997.2	25.3
0°-40°	1639.4	41.7
0°-60°	2958.1	75.2
0°-90°	3936.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3936.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1277	1277	1277	1277	1277	
5°	1274	1274	1269	1274	1274	121
15°	1224	1226	1228	1239	1239	345
25°	1127	1134	1144	1163	1167	520
35°	990	1002	1025	1051	1060	620
45°	821	837	878	921	938	632
55°	621	648	717	784	809	553
65°	399	445	549	630	658	394
75°	173	252	366	433	443	186
85°	33	72	89	99	100	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1277.0	1277.0	1277.0	1277.0	1277.0
2.5°	1278.7	1277.0	1270.4	1277.0	1277.0
5°	1273.7	1273.7	1268.8	1273.7	1273.7
7.5°	1265.5	1265.5	1262.2	1268.8	1268.8
10°	1255.6	1255.6	1254.0	1262.2	1262.2
12.5°	1240.8	1242.4	1240.8	1250.7	1250.7
15°	1224.3	1226.0	1227.6	1239.1	1239.1
17.5°	1202.9	1206.2	1209.5	1222.7	1224.3
20°	1183.1	1184.8	1191.4	1206.2	1207.8
22.5°	1156.7	1161.7	1169.9	1184.8	1189.7
25°	1127.1	1133.7	1143.6	1163.3	1166.6
27.5°	1099.1	1104.0	1117.2	1138.6	1145.2
30°	1064.5	1072.7	1089.2	1110.6	1118.9
32.5°	1031.5	1039.8	1059.5	1082.6	1089.2
35°	990.3	1001.9	1024.9	1051.3	1059.5
37.5°	950.8	962.3	990.3	1020.0	1029.9
40°	909.6	922.8	952.4	987.0	1000.2
42.5°	865.1	883.2	916.2	954.1	968.9
45°	820.6	837.1	878.3	921.1	937.6
47.5°	772.8	792.6	837.1	888.2	907.9
50°	721.7	746.4	797.5	853.6	875.0
52.5°	670.7	698.7	756.3	819.0	842.0
55°	621.2	647.6	716.8	784.3	809.1
57.5°	566.8	599.8	675.6	748.1	772.8
60°	510.8	547.1	634.4	710.2	736.6
62.5°	454.8	496.0	594.9	670.7	698.7
65°	398.8	444.9	548.7	629.5	657.5
67.5°	344.4	395.5	505.9	586.6	614.6
70°	281.8	346.0	459.7	538.8	566.8
72.5°	224.1	298.3	415.2	489.4	514.1
75°	173.0	252.1	365.8	433.4	443.3
77.5°	126.9	206.0	314.7	337.8	339.4
80°	85.7	164.8	240.6	237.3	240.6
82.5°	56.0	123.6	151.6	169.7	171.4
85°	33.0	72.5	89.0	98.9	100.5
87.5°	16.5	24.7	31.3	33.0	36.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)