

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: P309654

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-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: P309654
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-CP125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 3859.0 lumens
Efficiency: N/A
Efficacy: 81.6 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

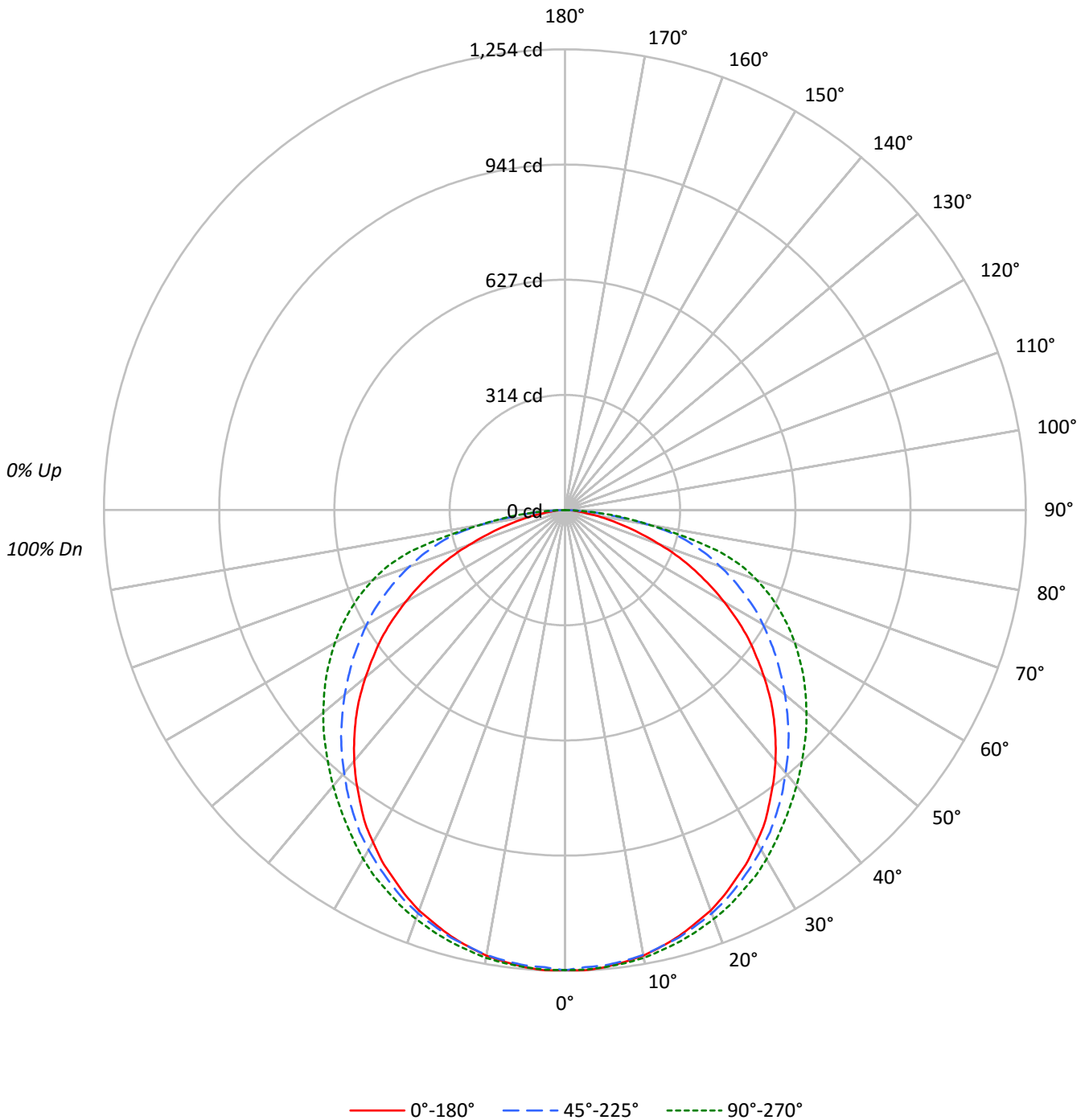
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1685	1685	1685
5°	1687	1680	1687
10°	1682	1680	1691
15°	1672	1677	1692
20°	1661	1672	1696
25°	1640	1665	1698
30°	1621	1659	1704
35°	1595	1651	1706
40°	1566	1640	1722
45°	1531	1639	1749
50°	1481	1637	1796
55°	1429	1649	1861
60°	1348	1674	1943
65°	1245	1713	2052
70°	1087	1773	2186
75°	882	1865	2259
80°	651	1828	1828
85°	499	1346	1521



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.6	3.1
10°-20°	340.6	8.8
20°-30°	518.5	13.4
30°-40°	629.6	16.3
40°-50°	665.2	17.2
50°-60°	627.7	16.3
60°-70°	521.9	13.5
70°-80°	343.4	8.9
80°-90°	93.6	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°	977.7	25.3
0°-40°	1607.3	41.7
0°-60°	2900.2	75.2
0°-90°	3859.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3859.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1252	1252	1252	1252	1252	
5°	1249	1249	1244	1249	1249	119
15°	1200	1202	1204	1215	1215	339
25°	1105	1112	1121	1141	1144	510
35°	971	982	1005	1031	1039	608
45°	804	821	861	903	919	620
55°	609	635	703	769	793	543
65°	391	436	538	617	645	387
75°	170	247	359	425	435	183
85°	32	71	87	97	98	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.1	1252.1	1252.1	1252.1	1252.1
2.5°	1253.7	1252.1	1245.6	1252.1	1252.1
5°	1248.8	1248.8	1244.0	1248.8	1248.8
7.5°	1240.7	1240.7	1237.5	1244.0	1244.0
10°	1231.1	1231.1	1229.4	1237.5	1237.5
12.5°	1216.5	1218.1	1216.5	1226.2	1226.2
15°	1200.4	1202.0	1203.6	1214.9	1214.9
17.5°	1179.4	1182.6	1185.8	1198.7	1200.4
20°	1160.0	1161.6	1168.0	1182.6	1184.2
22.5°	1134.1	1139.0	1147.0	1161.6	1166.4
25°	1105.0	1111.5	1121.2	1140.6	1143.8
27.5°	1077.6	1082.4	1095.3	1116.3	1122.8
30°	1043.6	1051.7	1067.9	1088.9	1097.0
32.5°	1011.3	1019.4	1038.8	1061.4	1067.9
35°	970.9	982.3	1004.9	1030.7	1038.8
37.5°	932.2	943.5	970.9	1000.0	1009.7
40°	891.8	904.7	933.8	967.7	980.6
42.5°	848.2	865.9	898.2	935.4	949.9
45°	804.5	820.7	861.1	903.1	919.3
47.5°	757.7	777.1	820.7	870.8	890.2
50°	707.6	731.8	781.9	836.9	857.9
52.5°	657.5	685.0	741.5	802.9	825.5
55°	609.1	634.9	702.8	769.0	793.2
57.5°	555.8	588.1	662.4	733.5	757.7
60°	500.8	536.4	622.0	696.3	722.2
62.5°	445.9	486.3	583.2	657.5	685.0
65°	391.0	436.2	538.0	617.1	644.6
67.5°	337.7	387.7	496.0	575.1	602.6
70°	276.3	339.3	450.7	528.3	555.8
72.5°	219.7	292.4	407.1	479.8	504.1
75°	169.6	247.2	358.7	424.9	434.6
77.5°	124.4	201.9	308.6	331.2	332.8
80°	84.0	161.6	235.9	232.6	235.9
82.5°	54.9	121.2	148.6	166.4	168.0
85°	32.3	71.1	87.2	96.9	98.5
87.5°	16.2	24.2	30.7	32.3	35.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)