

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: P309649

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CA125-W2A-U-5000K**

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: P309649
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-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 5000K 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: 4292.0 lumens
Efficiency: N/A
Efficacy: 88.1 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

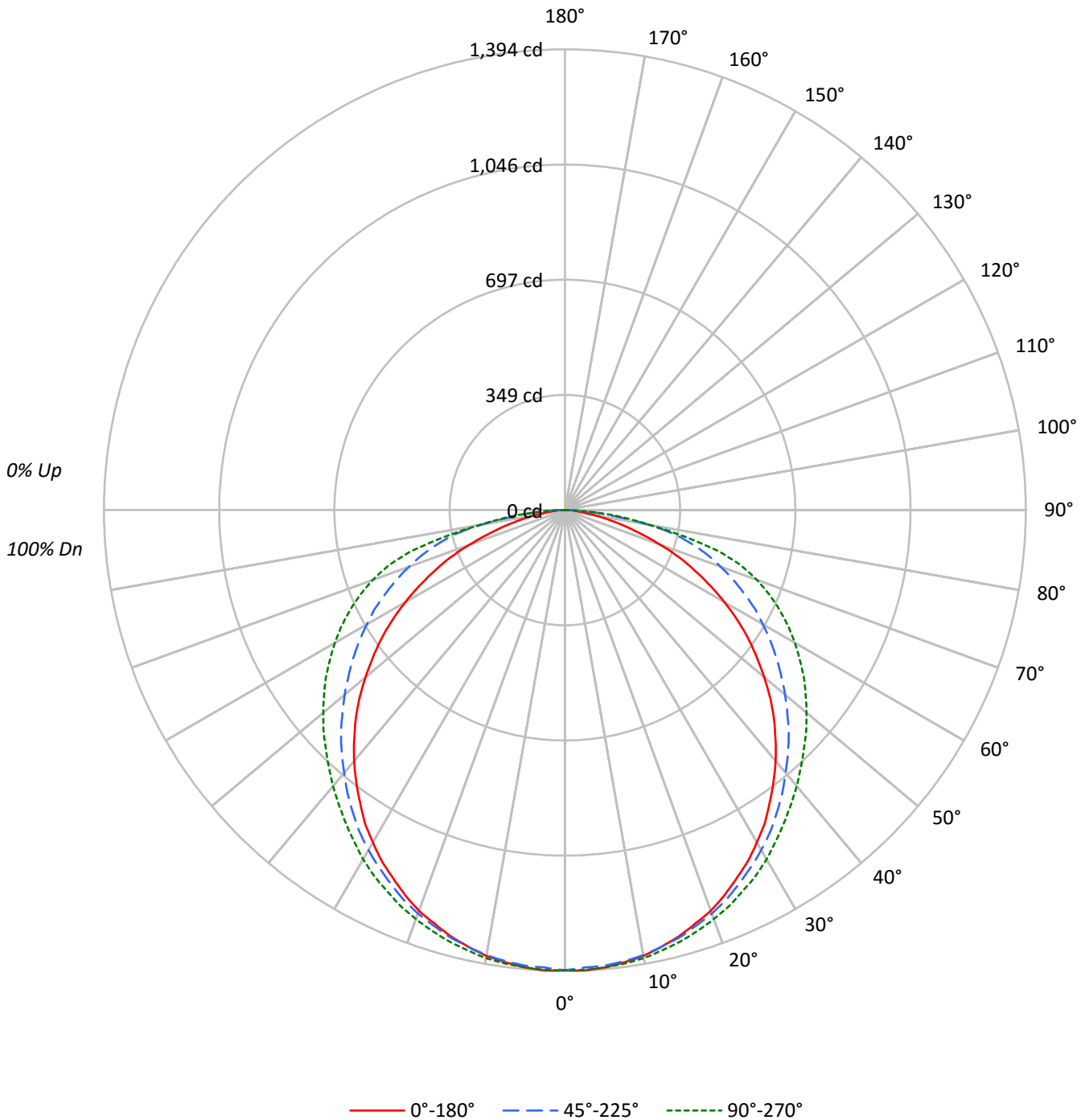
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1874	1874	1874
5°	1876	1869	1876
10°	1871	1868	1881
15°	1860	1865	1882
20°	1847	1860	1886
25°	1825	1851	1889
30°	1803	1845	1895
35°	1774	1836	1898
40°	1742	1824	1916
45°	1703	1822	1945
50°	1647	1820	1997
55°	1589	1833	2069
60°	1499	1862	2161
65°	1384	1905	2282
70°	1209	1972	2432
75°	981	2074	2512
80°	724	2032	2032
85°	554	1497	1692



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.9	3.1
10°-20°	378.8	8.8
20°-30°	576.7	13.4
30°-40°	700.3	16.3
40°-50°	739.8	17.2
50°-60°	698.1	16.3
60°-70°	580.4	13.5
70°-80°	381.9	8.9
80°-90°	104.1	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°	1087.4	25.3
0°-40°	1787.7	41.7
0°-60°	3225.6	75.2
0°-90°	4292.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4292.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1392	1392	1392	1392	1392	
5°	1389	1389	1384	1389	1389	132
15°	1335	1337	1339	1351	1351	377
25°	1229	1236	1247	1269	1272	567
35°	1080	1092	1118	1146	1155	676
45°	895	913	958	1004	1022	689
55°	677	706	782	855	882	603
65°	435	485	598	686	717	430
75°	189	275	399	473	483	203
85°	36	79	97	108	110	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1392.5	1392.5	1392.5	1392.5	1392.5
2.5°	1394.3	1392.5	1385.4	1392.5	1392.5
5°	1388.9	1388.9	1383.6	1388.9	1388.9
7.5°	1380.0	1380.0	1376.4	1383.6	1383.6
10°	1369.2	1369.2	1367.4	1376.4	1376.4
12.5°	1353.0	1354.8	1353.0	1363.8	1363.8
15°	1335.0	1336.8	1338.6	1351.2	1351.2
17.5°	1311.7	1315.3	1318.9	1333.2	1335.0
20°	1290.1	1291.9	1299.1	1315.3	1317.1
22.5°	1261.4	1266.8	1275.7	1291.9	1297.3
25°	1229.0	1236.2	1247.0	1268.6	1272.2
27.5°	1198.5	1203.9	1218.3	1241.6	1248.8
30°	1160.8	1169.7	1187.7	1211.1	1220.0
32.5°	1124.8	1133.8	1155.4	1180.5	1187.7
35°	1079.9	1092.5	1117.6	1146.4	1155.4
37.5°	1036.8	1049.3	1079.9	1112.2	1123.0
40°	991.8	1006.2	1038.6	1076.3	1090.7
42.5°	943.3	963.1	999.0	1040.4	1056.5
45°	894.8	912.8	957.7	1004.4	1022.4
47.5°	842.7	864.3	912.8	968.5	990.1
50°	787.0	814.0	869.7	930.8	954.1
52.5°	731.3	761.9	824.7	893.0	918.2
55°	677.4	706.2	781.6	855.3	882.2
57.5°	618.1	654.0	736.7	815.8	842.7
60°	557.0	596.5	691.8	774.4	803.2
62.5°	495.9	540.8	648.7	731.3	761.9
65°	434.8	485.1	598.3	686.4	716.9
67.5°	375.5	431.2	551.6	639.7	670.2
70°	307.3	377.3	501.3	587.6	618.1
72.5°	244.4	325.2	452.8	533.7	560.6
75°	188.7	274.9	398.9	472.6	483.3
77.5°	138.4	224.6	343.2	368.4	370.1
80°	93.4	179.7	262.3	258.7	262.3
82.5°	61.1	134.8	165.3	185.1	186.9
85°	35.9	79.1	97.0	107.8	109.6
87.5°	18.0	27.0	34.1	35.9	39.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)