

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: P309656

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP125-W2A-U-4000K**

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: P309656
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125"
POLYCARB SHEET
Light Source: (336) 4000K 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: 4080.0 lumens
Efficiency: N/A
Efficacy: 84.6 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

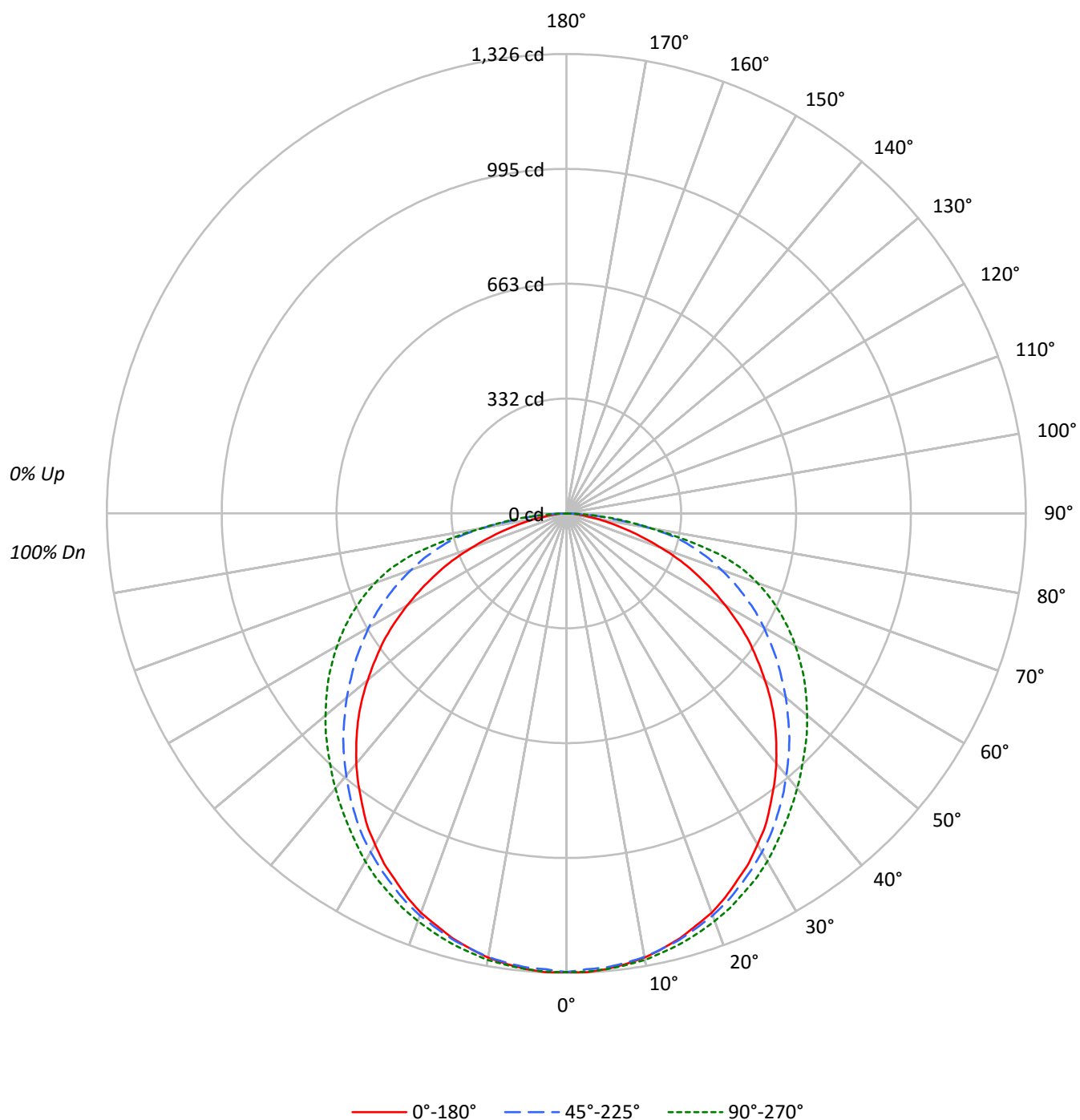
Input Watts (W): 48.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309656

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-HRP-CP125-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P309656

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-HRP-CP125-W2A-U-4000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1781	1781	1781
5°	1783	1776	1783
10°	1778	1776	1788
15°	1768	1773	1789
20°	1756	1768	1793
25°	1734	1760	1795
30°	1714	1754	1802
35°	1686	1745	1804
40°	1656	1734	1821
45°	1619	1732	1849
50°	1566	1730	1899
55°	1510	1743	1967
60°	1425	1770	2055
65°	1316	1811	2170
70°	1149	1875	2312
75°	932	1971	2389
80°	688	1932	1932
85°	528	1423	1609



TEST NUMBER: P309656

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-HRP-CP125-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.4	3.1
10°-20°	360.1	8.8
20°-30°	548.2	13.4
30°-40°	665.7	16.3
40°-50°	703.3	17.2
50°-60°	663.6	16.3
60°-70°	551.8	13.5
70°-80°	363.0	8.9
80°-90°	99.0	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°	1033.7	25.3
0°-40°	1699.4	41.7
0°-60°	3066.3	75.2
0°-90°	4080.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4080.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1324	1324	1324	1324	1324	
5°	1320	1320	1315	1320	1320	125
15°	1269	1271	1272	1284	1284	358
25°	1168	1175	1185	1206	1209	539
35°	1027	1038	1062	1090	1098	643
45°	851	868	910	955	972	655
55°	644	671	743	813	839	574
65°	413	461	569	652	682	409
75°	179	261	379	449	460	193
85°	34	75	92	102	104	42
90°	0	0	0	0	0	



TEST NUMBER: P309656

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-HRP-CP125-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1323.8	1323.8	1323.8	1323.8	1323.8
2.5°	1325.5	1323.8	1316.9	1323.8	1323.8
5°	1320.3	1320.3	1315.2	1320.3	1320.3
7.5°	1311.8	1311.8	1308.4	1315.2	1315.2
10°	1301.6	1301.6	1299.8	1308.4	1308.4
12.5°	1286.2	1287.9	1286.2	1296.4	1296.4
15°	1269.1	1270.8	1272.5	1284.5	1284.5
17.5°	1246.9	1250.3	1253.7	1267.4	1269.1
20°	1226.4	1228.1	1234.9	1250.3	1252.0
22.5°	1199.1	1204.2	1212.7	1228.1	1233.2
25°	1168.3	1175.2	1185.4	1205.9	1209.3
27.5°	1139.3	1144.4	1158.1	1180.3	1187.1
30°	1103.4	1112.0	1129.0	1151.2	1159.8
32.5°	1069.3	1077.8	1098.3	1122.2	1129.0
35°	1026.6	1038.5	1062.4	1089.8	1098.3
37.5°	985.6	997.5	1026.6	1057.3	1067.5
40°	942.9	956.5	987.3	1023.1	1036.8
42.5°	896.7	915.5	949.7	989.0	1004.3
45°	850.6	867.7	910.4	954.8	971.9
47.5°	801.1	821.6	867.7	920.7	941.2
50°	748.1	773.8	826.7	884.8	907.0
52.5°	695.2	724.2	784.0	848.9	872.8
55°	643.9	671.3	743.0	813.0	838.7
57.5°	587.6	621.7	700.3	775.5	801.1
60°	529.5	567.1	657.6	736.2	763.5
62.5°	471.4	514.1	616.6	695.2	724.2
65°	413.4	461.2	568.8	652.5	681.5
67.5°	357.0	409.9	524.4	608.1	637.1
70°	292.1	358.7	476.6	558.5	587.6
72.5°	232.3	309.2	430.4	507.3	532.9
75°	179.3	261.3	379.2	449.2	459.5
77.5°	131.5	213.5	326.2	350.2	351.9
80°	88.8	170.8	249.4	246.0	249.4
82.5°	58.1	128.1	157.1	175.9	177.6
85°	34.2	75.2	92.2	102.5	104.2
87.5°	17.1	25.6	32.5	34.2	37.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)