

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P735863

Luminaire Tested: S122DR-S290D835-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2019
Report Number: P735863
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)
Test Lab: INNOVATION CENTER
Issue Date: 1/24/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DR-S290D835-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1288.5 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

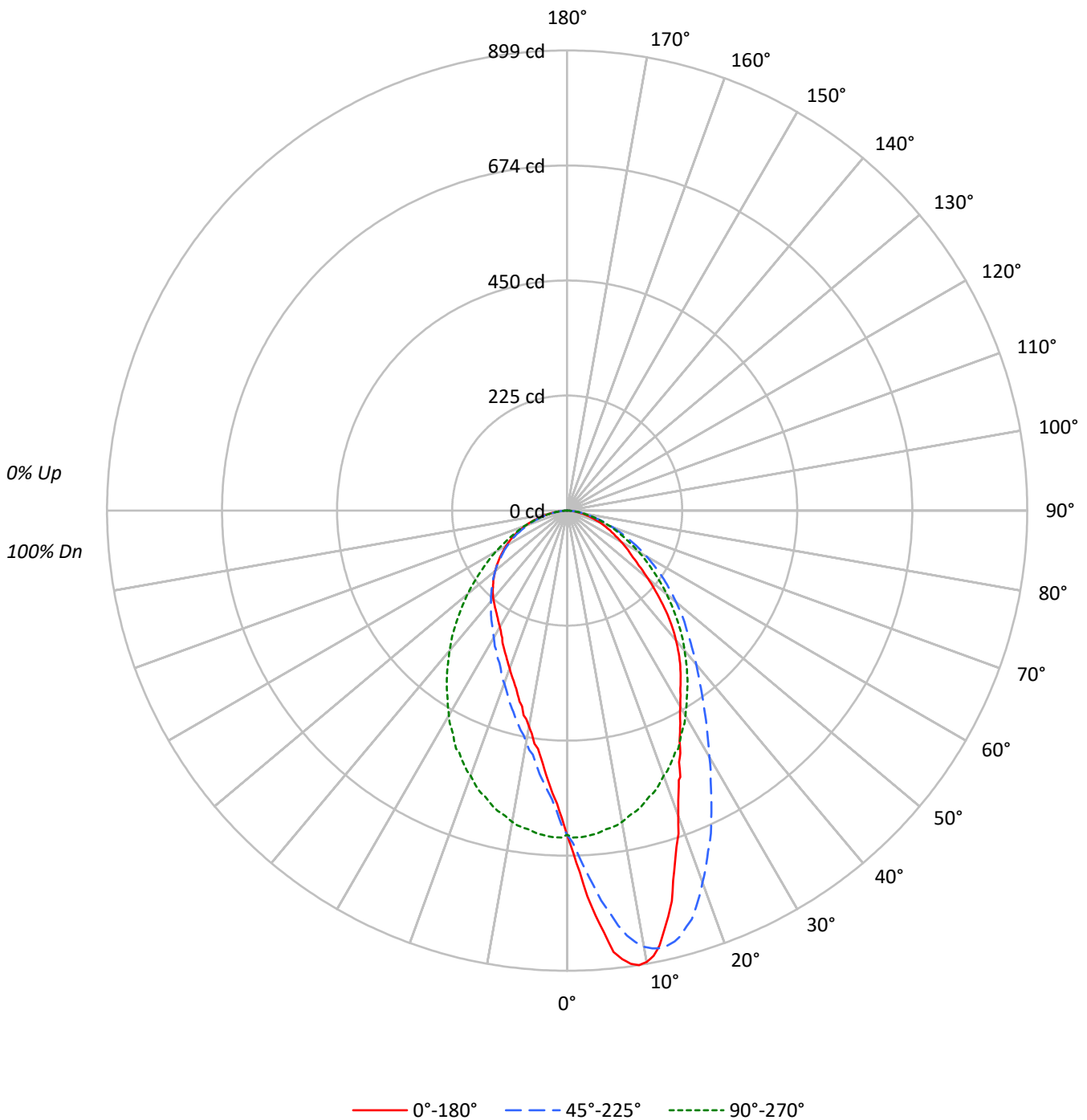
Input Watts (W): 12.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86				86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74				74
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64				64
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58	56				56
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51	49				49
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44				44
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41	39				39
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35				35
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34	32				32
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	12173	12173	12173	12173	12173
5°	15964	14755	12237	10263	9792
10°	17474	16889	12054	8970	8359
15°	15720	17105	11727	8099	7414
20°	12972	15820	11281	7345	6721
25°	11086	14114	10884	6793	6231
30°	9806	12327	10258	6365	5835
35°	9069	10918	9621	6066	5669
40°	8300	9851	8955	5811	5636
45°	7312	8992	8283	5632	5562
50°	6157	8292	7589	5478	5493
55°	5177	7627	6856	5295	5395
60°	4667	6893	6224	5136	5286
65°	4234	6058	5544	4889	5185
70°	3816	5232	4990	4524	4917
75°	3327	4426	4270	4107	4493
80°	2789	3465	3465	3564	3752
85°	2117	2492	2602	2779	2691

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 13203 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.3	4.8
10°-20°	171.1	13.3
20°-30°	224.3	17.4
30°-40°	237.1	18.4
40°-50°	220.1	17.1
50°-60°	176.2	13.7
60°-70°	120.5	9.4
70°-80°	62.2	4.8
80°-90°	14.8	1.1
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°	457.7	35.5
0°-40°	694.8	53.9
0°-60°	1091.1	84.7
0°-90°	1288.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1288.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	633	633	633	633	633	
5°	827	765	634	532	508	82
15°	790	860	589	407	373	217
25°	523	666	513	320	294	241
35°	386	465	410	258	242	241
45°	269	331	305	207	205	207
55°	154	228	205	158	161	142
65°	93	133	122	108	114	92
75°	45	60	58	55	60	48
85°	10	11	12	13	12	12
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	633.3	633.3	633.3	633.3	633.3	633.3	633.3	633.3	633.3
1°	668.1	664.6	649.4	650.3	638.9	626.3	614.6	607.2	601.1
2°	707.3	700.3	676.4	664.6	638.9	612.0	587.6	581.1	572.8
3°	754.7	738.2	705.1	677.2	638.1	598.9	565.4	553.6	552.3
4°	793.0	778.2	734.3	690.3	635.9	586.3	548.4	535.8	529.7
5°	827.4	817.8	764.7	706.8	634.2	574.1	531.9	514.5	507.5
6°	867.0	847.4	789.1	723.4	631.1	562.3	517.1	496.2	486.6
7°	883.1	870.9	816.5	734.3	627.2	548.9	498.4	475.7	468.8
8°	894.4	889.7	838.3	752.1	625.5	536.2	481.8	467.9	459.6
9°	899.2	895.3	854.0	759.5	622.4	529.7	473.6	450.5	441.3
10°	895.3	897.1	865.3	770.8	617.6	516.2	459.6	439.6	428.3
11°	886.2	890.5	871.4	783.9	611.5	505.3	447.0	426.5	415.7
12°	868.8	878.3	874.0	793.0	605.9	495.7	438.3	418.7	409.1
13°	841.8	863.1	872.2	796.9	602.4	484.9	427.4	404.8	392.6
14°	817.4	839.6	867.5	805.6	596.3	472.7	417.4	394.8	384.3
15°	790.0	815.7	859.6	808.3	589.3	462.7	407.0	382.1	372.6
16°	751.7	786.1	845.3	811.3	581.1	451.4	397.4	373.9	361.3
17°	719.9	756.9	834.4	813.0	576.7	442.6	389.1	361.3	353.0
18°	690.7	732.5	814.8	811.7	569.7	432.6	376.9	352.1	344.3
19°	667.7	701.6	795.2	808.7	560.2	423.1	367.8	345.6	336.4
20°	634.2	673.3	773.4	807.4	551.5	414.4	359.1	336.4	328.6
21°	606.3	646.3	753.4	803.0	545.4	406.1	352.6	327.7	320.8
22.5°	569.7	605.0	719.9	794.8	531.9	392.2	338.2	319.5	309.9
23°	565.4	595.4	711.2	792.2	528.0	389.1	333.4	314.7	306.9
24°	538.0	569.7	690.7	783.9	517.9	379.5	325.6	309.0	299.9
25°	522.7	548.9	665.5	776.1	513.2	370.8	320.3	301.6	293.8
26°	501.4	531.4	642.9	764.7	502.7	363.0	312.1	295.1	287.7
27°	485.7	511.0	619.4	756.5	490.5	354.7	305.5	288.6	279.4
28°	470.5	494.9	596.7	743.0	481.8	345.6	300.8	282.9	274.2
29°	454.8	476.2	578.4	732.5	473.6	337.8	293.4	275.5	267.2
30°	441.8	461.4	555.4	718.6	462.2	328.6	286.8	270.3	262.9
32.5°	411.7	428.3	508.4	685.5	435.3	310.3	271.2	255.9	251.6
35°	386.5	397.4	465.3	648.5	410.0	290.7	258.5	243.7	241.6
37.5°	360.0	370.4	426.1	609.8	383.5	272.9	244.2	234.6	232.9
40°	330.8	344.7	392.6	571.5	356.9	255.5	231.6	224.2	224.6
42.5°	301.6	317.7	360.0	526.7	332.1	239.0	219.4	214.1	215.0
45°	269.0	289.4	330.8	485.7	304.7	223.3	207.2	204.6	204.6
47.5°	235.0	261.2	305.5	443.5	278.6	207.6	195.4	193.7	194.6
50°	205.9	229.4	277.3	402.6	253.8	193.3	183.2	182.8	183.7
52.5°	177.1	200.7	252.4	364.3	228.5	180.2	171.5	171.5	172.4
55°	154.5	172.8	227.6	324.3	204.6	165.0	158.0	159.3	161.0
57.5°	138.8	151.0	203.3	286.0	182.4	150.2	145.8	146.7	148.9
60°	121.4	131.0	179.3	250.7	161.9	135.8	133.6	135.4	137.5
62.5°	105.8	114.0	156.7	218.9	139.7	121.9	121.0	123.6	125.8
65°	93.1	98.8	133.2	186.7	121.9	107.9	107.5	111.4	114.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	80.1	84.4	112.7	156.3	104.0	94.0	94.0	98.4	100.5
70°	67.9	71.4	93.1	128.8	88.8	80.1	80.5	85.7	87.5
72.5°	55.3	58.3	75.7	103.6	71.8	67.0	68.3	72.7	74.4
75°	44.8	47.0	59.6	81.8	57.5	53.5	55.3	59.2	60.5
77.5°	34.4	36.1	44.0	60.1	44.0	41.8	43.5	47.0	47.0
80°	25.2	25.7	31.3	42.2	31.3	30.0	32.2	33.9	33.9
82.5°	16.5	17.4	20.5	27.0	20.9	20.5	21.3	22.6	22.6
85°	9.6	10.0	11.3	14.8	11.8	11.8	12.6	12.6	12.2
87.5°	3.9	4.4	4.8	5.7	5.2	5.7	5.7	4.8	5.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)