

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: P735864

Luminaire Tested: S122DR-S290D840-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2019
Report Number: P735864
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-S290D840-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1301.2 lumens
Efficiency: N/A
Efficacy: 104.1 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

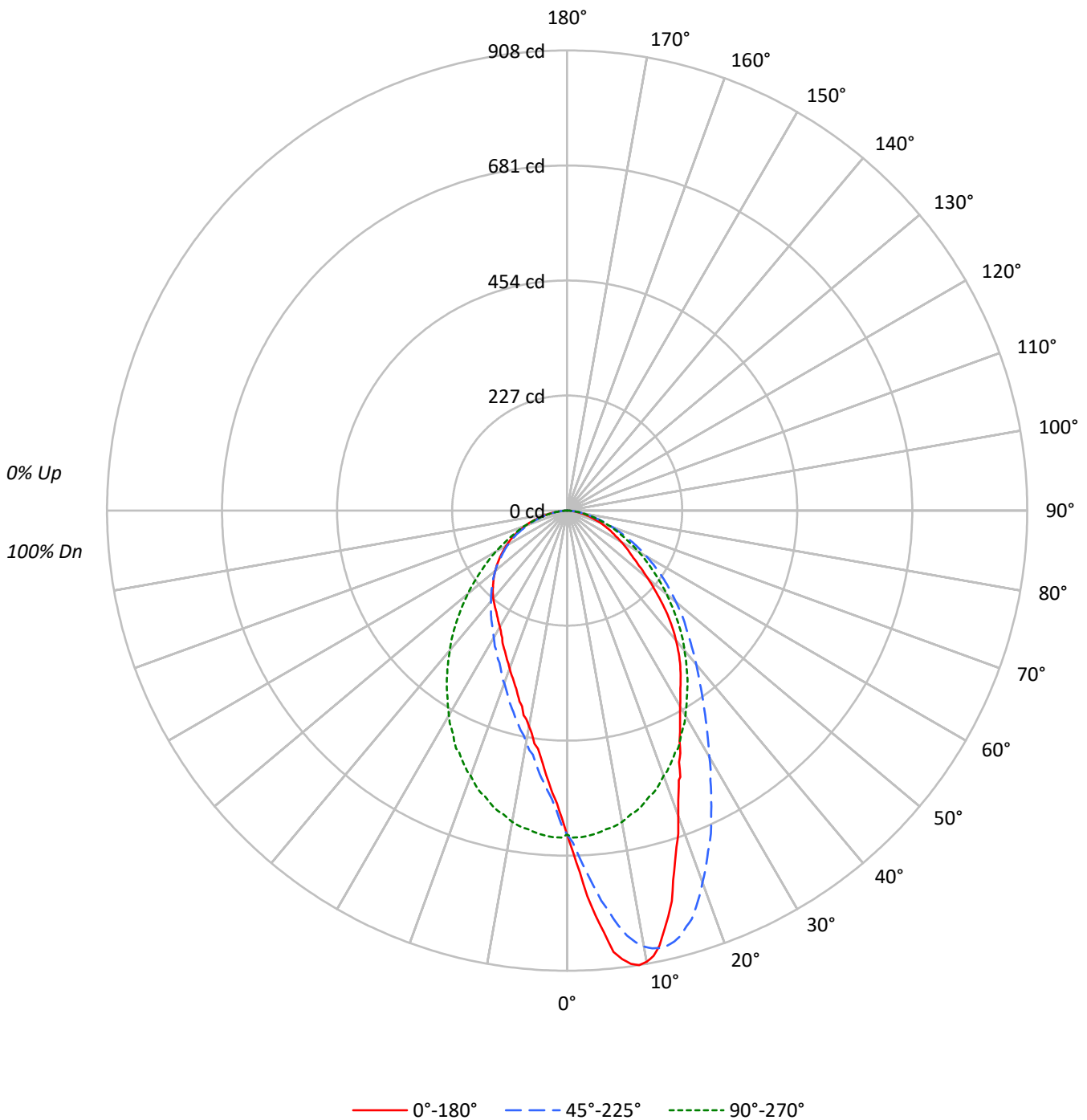
Input Watts (W): 12.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	12292	12292	12292	12292	12292
5°	16123	14901	12356	10363	9889
10°	17646	17055	12173	9060	8441
15°	15876	17275	11842	8179	7486
20°	13099	15977	11391	7417	6789
25°	11196	14254	10990	6861	6293
30°	9901	12449	10361	6430	5893
35°	9158	11026	9717	6127	5723
40°	8383	9949	9043	5866	5691
45°	7383	9082	8364	5687	5616
50°	6217	8373	7664	5532	5547
55°	5228	7704	6923	5348	5449
60°	4713	6962	6285	5186	5340
65°	4280	6117	5599	4939	5239
70°	3855	5288	5041	4569	4962
75°	3364	4471	4307	4144	4538
80°	2823	3498	3498	3597	3797
85°	2139	2514	2624	2801	2713

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 13333 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.9	4.8
10°-20°	172.7	13.3
20°-30°	226.5	17.4
30°-40°	239.4	18.4
40°-50°	222.3	17.1
50°-60°	177.9	13.7
60°-70°	121.7	9.4
70°-80°	62.8	4.8
80°-90°	14.9	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°	462.2	35.5
0°-40°	701.6	53.9
0°-60°	1101.9	84.7
0°-90°	1301.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1301.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	640	640	640	640	640	
5°	836	772	640	537	512	82
15°	798	868	595	411	376	219
25°	528	672	518	324	297	243
35°	390	470	414	261	244	244
45°	272	334	308	209	207	209
55°	156	230	207	160	163	143
65°	94	134	123	109	115	93
75°	45	60	58	56	61	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°	639.5	639.5	639.5	639.5	639.5	639.5	639.5	639.5	639.5
1°	674.7	671.2	655.8	656.7	645.3	632.5	620.6	613.2	607.0
2°	714.3	707.2	683.1	671.2	645.3	618.0	593.4	586.8	578.4
3°	762.2	745.5	712.1	683.9	644.4	604.8	571.0	559.1	557.8
4°	800.8	785.9	741.5	697.1	642.2	592.1	553.8	541.1	534.9
5°	835.6	825.9	772.3	713.8	640.4	579.8	537.1	519.5	512.5
6°	875.6	855.8	796.9	730.5	637.3	567.9	522.2	501.1	491.4
7°	891.8	879.5	824.6	741.5	633.4	554.3	503.3	480.4	473.4
8°	903.3	898.4	846.6	759.5	631.6	541.5	486.6	472.5	464.2
9°	908.1	904.1	862.4	767.0	628.5	534.9	478.2	454.9	445.7
10°	904.1	905.9	873.8	778.4	623.7	521.3	464.2	443.9	432.5
11°	894.9	899.3	880.0	791.6	617.6	510.3	451.4	430.8	419.8
12°	877.3	887.0	882.6	800.8	611.8	500.6	442.6	422.8	413.2
13°	850.1	871.6	880.8	804.8	608.3	489.7	431.6	408.8	396.5
14°	825.5	847.9	876.0	813.6	602.2	477.3	421.5	398.7	388.1
15°	797.8	823.7	868.1	816.2	595.1	467.2	411.0	385.9	376.2
16°	759.1	793.8	853.6	819.3	586.8	455.8	401.3	377.6	364.8
17°	727.0	764.4	842.6	821.1	582.4	447.0	393.0	364.8	356.5
18°	697.6	739.8	822.8	819.7	575.4	436.9	380.6	355.6	347.7
19°	674.3	708.5	803.0	816.7	565.7	427.2	371.4	349.0	339.8
20°	640.4	680.0	781.1	815.4	556.9	418.4	362.6	339.8	331.9
21°	612.3	652.7	760.9	811.0	550.7	410.1	356.0	331.0	323.9
22.5°	575.4	611.0	727.0	802.6	537.1	396.0	341.5	322.6	313.0
23°	571.0	601.3	718.2	800.0	533.2	393.0	336.7	317.8	309.9
24°	543.3	575.4	697.6	791.6	523.1	383.3	328.8	312.1	302.8
25°	527.9	554.3	672.1	783.7	518.2	374.5	323.5	304.6	296.7
26°	506.4	536.7	649.2	772.3	507.7	366.6	315.2	298.0	290.5
27°	490.5	516.0	625.5	763.9	495.4	358.2	308.6	291.4	282.2
28°	475.1	499.8	602.6	750.3	486.6	349.0	303.7	285.7	276.9
29°	459.3	480.9	584.2	739.8	478.2	341.1	296.3	278.2	269.9
30°	446.1	465.9	560.9	725.7	466.8	331.9	289.7	273.0	265.5
32.5°	415.8	432.5	513.4	692.3	439.5	313.4	273.8	258.5	254.1
35°	390.3	401.3	469.9	654.9	414.1	293.6	261.1	246.1	243.9
37.5°	363.5	374.1	430.3	615.8	387.2	275.6	246.6	236.9	235.2
40°	334.1	348.1	396.5	577.1	360.4	258.0	233.8	226.4	226.8
42.5°	304.6	320.9	363.5	531.8	335.4	241.3	221.5	216.3	217.1
45°	271.6	292.3	334.1	490.5	307.7	225.5	209.2	206.6	206.6
47.5°	237.4	263.7	308.6	447.9	281.3	209.7	197.4	195.6	196.5
50°	207.9	231.6	280.0	406.6	256.3	195.2	185.0	184.6	185.5
52.5°	178.9	202.6	254.9	367.9	230.8	182.0	173.2	173.2	174.1
55°	156.0	174.5	229.9	327.5	206.6	166.6	159.6	160.9	162.6
57.5°	140.2	152.5	205.3	288.8	184.2	151.6	147.2	148.1	150.3
60°	122.6	132.3	181.1	253.2	163.5	137.1	134.9	136.7	138.9
62.5°	106.8	115.2	158.2	221.1	141.1	123.1	122.2	124.8	127.0
65°	94.1	99.8	134.5	188.6	123.1	109.0	108.6	112.5	115.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	80.9	85.3	113.8	157.8	105.1	94.9	94.9	99.3	101.5
70°	68.6	72.1	94.1	130.1	89.7	80.9	81.3	86.6	88.3
72.5°	55.8	58.9	76.5	104.6	72.5	67.7	69.0	73.4	75.2
75°	45.3	47.5	60.2	82.6	58.0	54.1	55.8	59.8	61.1
77.5°	34.7	36.5	44.4	60.7	44.4	42.2	44.0	47.5	47.5
80°	25.5	25.9	31.6	42.6	31.6	30.3	32.5	34.3	34.3
82.5°	16.7	17.6	20.7	27.3	21.1	20.7	21.5	22.9	22.9
85°	9.7	10.1	11.4	14.9	11.9	11.9	12.7	12.7	12.3
87.5°	4.0	4.4	4.8	5.7	5.3	5.7	5.7	4.8	5.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)