

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P735866

Luminaire Tested: S122DRP-S290D927-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735866
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: S122DRP-S290D927-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

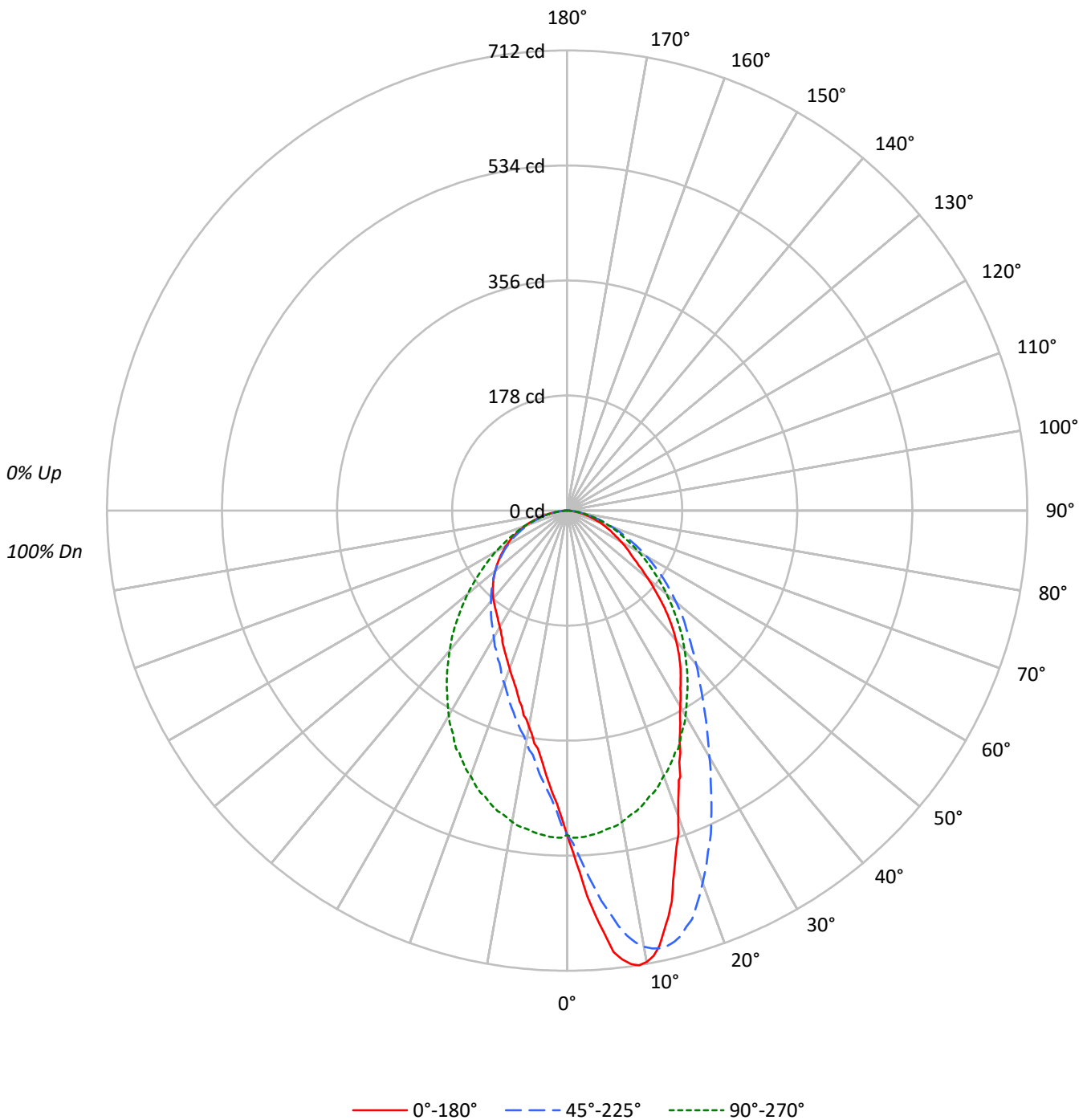
Lumens per Lamp: N/A
Luminaire Lumens: 1020.7 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

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°	9643	9643	9643	9643	9643
5°	12648	11689	9694	8129	7756
10°	13842	13379	9550	7106	6622
15°	12453	13551	9291	6416	5872
20°	10277	12533	8937	5819	5324
25°	8782	11181	8621	5383	4935
30°	7768	9766	8128	5043	4623
35°	7185	8649	7621	4806	4491
40°	6574	7803	7093	4602	4464
45°	5793	7122	6562	4461	4406
50°	4877	6567	6011	4342	4351
55°	4102	6042	5432	4196	4276
60°	3698	5463	4932	4071	4190
65°	3357	4798	4389	3875	4107
70°	3024	4148	3951	3586	3895
75°	2636	3505	3379	3253	3557
80°	2214	2745	2745	2823	2978
85°	1676	1985	2051	2205	2139

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 10460 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.4	4.8
10°-20°	135.5	13.3
20°-30°	177.7	17.4
30°-40°	187.8	18.4
40°-50°	174.4	17.1
50°-60°	139.6	13.7
60°-70°	95.5	9.4
70°-80°	49.2	4.8
80°-90°	11.7	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°	362.6	35.5
0°-40°	550.4	53.9
0°-60°	864.3	84.7
0°-90°	1020.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1020.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	502	502	502	502	502	
5°	656	606	502	421	402	65
15°	626	681	467	322	295	172
25°	414	527	406	254	233	191
35°	306	369	325	205	191	191
45°	213	262	241	164	162	164
55°	122	180	162	125	128	112
65°	74	106	96	85	90	73
75°	36	47	46	44	48	38
85°	8	9	9	10	10	9
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°	501.7	501.7	501.7	501.7	501.7	501.7	501.7	501.7	501.7
1°	529.3	526.5	514.4	515.1	506.2	496.2	486.9	481.0	476.2
2°	560.3	554.8	535.8	526.5	506.2	484.8	465.5	460.3	453.8
3°	597.9	584.8	558.6	536.5	505.5	474.4	447.9	438.6	437.5
4°	628.2	616.5	581.7	546.8	503.7	464.4	434.4	424.4	419.6
5°	655.5	647.9	605.8	560.0	502.4	454.8	421.3	407.5	402.0
6°	686.8	671.3	625.1	573.1	500.0	445.5	409.6	393.1	385.5
7°	699.6	689.9	646.8	581.7	496.9	434.8	394.8	376.9	371.3
8°	708.6	704.8	664.1	595.8	495.5	424.8	381.7	370.7	364.1
9°	712.4	709.2	676.5	601.7	493.1	419.6	375.1	356.9	349.6
10°	709.2	710.6	685.5	610.6	489.3	408.9	364.1	348.2	339.3
11°	702.0	705.5	690.3	621.0	484.4	400.3	354.1	337.9	329.3
12°	688.2	695.8	692.4	628.2	480.0	392.7	347.2	331.7	324.1
13°	666.8	683.7	691.0	631.3	477.2	384.1	338.6	320.7	311.0
14°	647.5	665.1	687.2	638.2	472.4	374.4	330.7	312.7	304.5
15°	625.8	646.1	681.0	640.3	466.9	366.5	322.4	302.7	295.1
16°	595.5	622.7	669.6	642.7	460.3	357.6	314.8	296.2	286.2
17°	570.3	599.6	661.0	644.1	456.9	350.7	308.2	286.2	279.6
18°	547.2	580.3	645.5	643.0	451.3	342.7	298.6	278.9	272.7
19°	528.9	555.8	629.9	640.6	443.8	335.1	291.4	273.8	266.5
20°	502.4	533.4	612.7	639.6	436.9	328.2	284.5	266.5	260.3
21°	480.3	512.0	596.8	636.2	432.0	321.7	279.3	259.6	254.1
22.5°	451.3	479.3	570.3	629.6	421.3	310.7	267.9	253.1	245.5
23°	447.9	471.7	563.4	627.5	418.2	308.2	264.1	249.3	243.1
24°	426.2	451.3	547.2	621.0	410.3	300.7	257.9	244.8	237.6
25°	414.1	434.8	527.2	614.8	406.5	293.8	253.8	238.9	232.7
26°	397.2	421.0	509.3	605.8	398.2	287.6	247.2	233.8	227.9
27°	384.8	404.8	490.6	599.3	388.6	281.0	242.0	228.6	221.4
28°	372.7	392.0	472.7	588.6	381.7	273.8	238.3	224.1	217.2
29°	360.3	377.2	458.2	580.3	375.1	267.6	232.4	218.3	211.7
30°	350.0	365.5	440.0	569.3	366.2	260.3	227.2	214.1	208.3
32.5°	326.2	339.3	402.7	543.1	344.8	245.8	214.8	202.7	199.3
35°	306.2	314.8	368.6	513.7	324.8	230.3	204.8	193.1	191.4
37.5°	285.1	293.4	337.6	483.1	303.8	216.2	193.4	185.8	184.5
40°	262.0	273.1	311.0	452.7	282.7	202.4	183.4	177.6	177.9
42.5°	238.9	251.7	285.1	417.2	263.1	189.3	173.8	169.6	170.3
45°	213.1	229.3	262.0	384.8	241.4	176.9	164.1	162.1	162.1
47.5°	186.2	206.9	242.0	351.3	220.7	164.5	154.8	153.4	154.1
50°	163.1	181.7	219.6	318.9	201.0	153.1	145.2	144.8	145.5
52.5°	140.3	159.0	200.0	288.6	181.0	142.7	135.8	135.8	136.5
55°	122.4	136.9	180.3	256.9	162.1	130.7	125.2	126.2	127.6
57.5°	110.0	119.6	161.0	226.5	144.5	119.0	115.5	116.2	117.9
60°	96.2	103.8	142.1	198.6	128.3	107.6	105.9	107.2	109.0
62.5°	83.8	90.3	124.1	173.4	110.7	96.5	95.9	97.9	99.6
65°	73.8	78.3	105.5	147.9	96.5	85.5	85.2	88.3	90.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	63.4	66.9	89.3	123.8	82.4	74.5	74.5	77.9	79.6
70°	53.8	56.5	73.8	102.1	70.3	63.4	63.8	67.9	69.3
72.5°	43.8	46.2	60.0	82.1	56.9	53.1	54.1	57.6	59.0
75°	35.5	37.2	47.2	64.8	45.5	42.4	43.8	46.9	47.9
77.5°	27.2	28.6	34.8	47.6	34.8	33.1	34.5	37.2	37.2
80°	20.0	20.3	24.8	33.4	24.8	23.8	25.5	26.9	26.9
82.5°	13.1	13.8	16.2	21.4	16.6	16.2	16.9	17.9	17.9
85°	7.6	7.9	9.0	11.7	9.3	9.3	10.0	10.0	9.7
87.5°	3.1	3.4	3.8	4.5	4.1	4.5	4.5	3.8	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	17.09	18.61	17.46	18.93	19.24	16.67	18.19	17.03	18.51	18.82
	3H	18.29	19.66	18.67	19.99	20.35	18.18	19.55	18.56	19.88	20.24
	4H	18.69	19.97	19.09	20.32	20.70	18.71	19.99	19.11	20.34	20.72
	6H	18.94	20.13	19.35	20.49	20.89	19.06	20.25	19.47	20.61	21.00
	8H	19.01	20.13	19.43	20.52	20.92	19.16	20.29	19.58	20.68	21.08
	12H	19.04	20.12	19.47	20.50	20.93	19.21	20.29	19.64	20.67	21.10
4H	2H	18.15	19.43	18.55	19.78	20.16	17.74	19.02	18.14	19.37	19.75
	3H	19.51	20.58	19.92	20.98	21.38	19.37	20.43	19.78	20.83	21.23
	4H	19.97	20.93	20.40	21.35	21.78	19.95	20.91	20.38	21.32	21.76
	6H	20.28	21.12	20.74	21.56	22.02	20.37	21.20	20.82	21.64	22.10
	8H	20.36	21.14	20.83	21.59	22.05	20.48	21.26	20.95	21.71	22.17
	12H	20.41	21.11	20.89	21.58	22.06	20.56	21.26	21.04	21.73	22.20
8H	4H	20.33	21.11	20.79	21.55	22.02	20.29	21.07	20.75	21.51	21.98
	6H	20.73	21.37	21.23	21.86	22.34	20.81	21.45	21.30	21.94	22.42
	8H	20.85	21.43	21.36	21.94	22.42	20.97	21.55	21.49	22.06	22.55
	12H	20.94	21.45	21.45	21.94	22.50	21.10	21.61	21.61	22.10	22.66
12H	4H	20.35	21.05	20.83	21.52	22.00	20.30	21.00	20.79	21.48	21.95
	6H	20.77	21.35	21.29	21.86	22.35	20.85	21.43	21.36	21.94	22.42
	8H	20.94	21.45	21.45	21.94	22.51	21.07	21.57	21.58	22.07	22.63