

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: P735868

Luminaire Tested: S122DRP-S290D935-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735868
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-S290D935-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

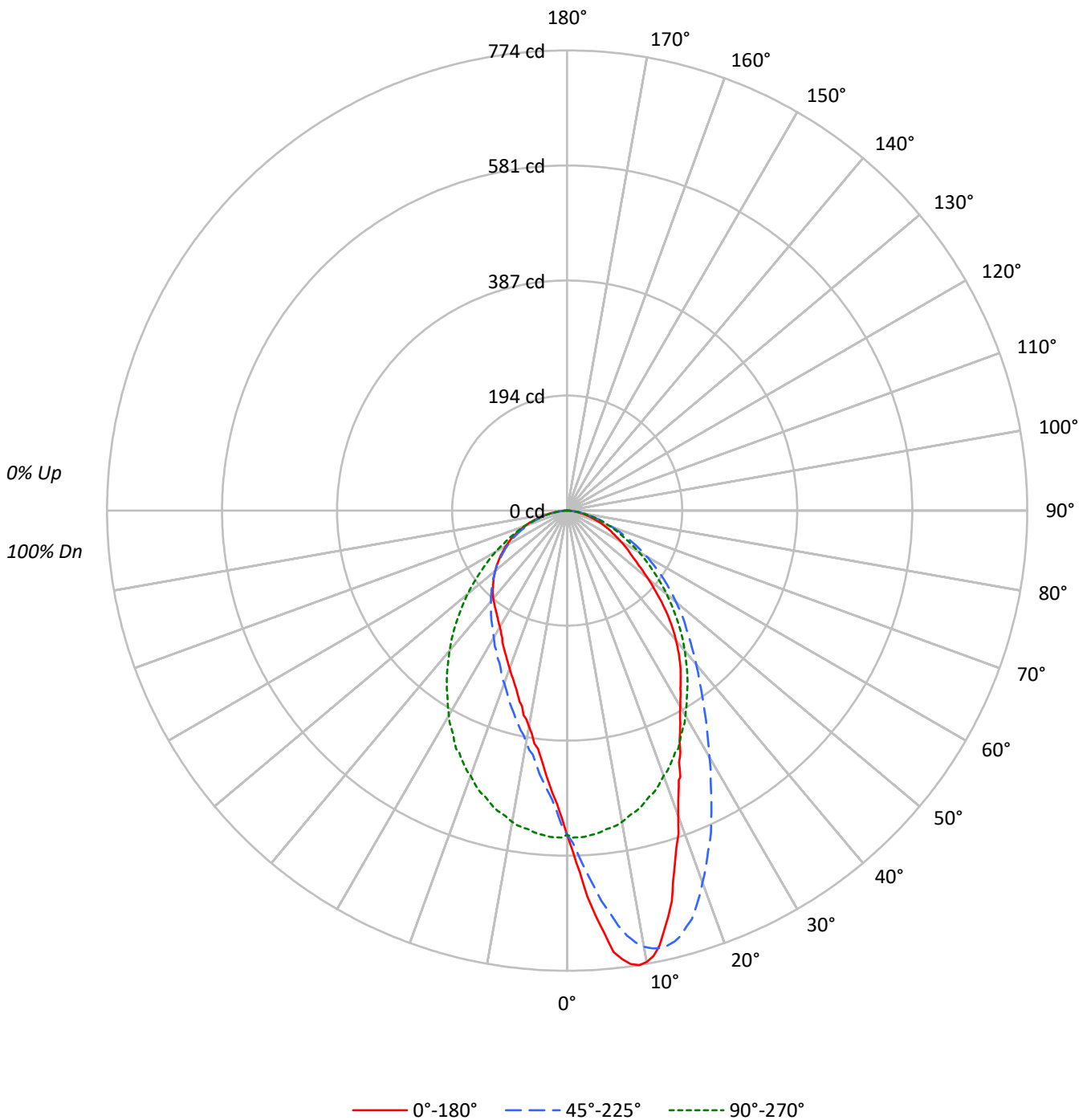
Lumens per Lamp: N/A
Luminaire Lumens: 1109.4 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

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	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	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°	10481	10481	10481	10481	10481
5°	13746	12704	10535	8835	8432
10°	15046	14541	10380	7723	7198
15°	13536	14727	10097	6973	6384
20°	11168	13621	9712	6325	5787
25°	9546	12152	9370	5849	5366
30°	8443	10614	8834	5482	5023
35°	7809	9400	8283	5223	4881
40°	7146	8481	7711	5003	4853
45°	6296	7742	7130	4849	4787
50°	5302	7138	6534	4719	4728
55°	4457	6568	5901	4558	4648
60°	4021	5936	5359	4421	4552
65°	3648	5217	4771	4212	4466
70°	3288	4507	4294	3895	4232
75°	2867	3810	3676	3535	3869
80°	2402	2989	2989	3066	3232
85°	1808	2139	2227	2404	2316

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 11368 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.7	4.8
10°-20°	147.3	13.3
20°-30°	193.1	17.4
30°-40°	204.1	18.4
40°-50°	189.5	17.1
50°-60°	151.7	13.7
60°-70°	103.7	9.4
70°-80°	53.5	4.8
80°-90°	12.7	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°	394.1	35.5
0°-40°	598.2	53.9
0°-60°	939.4	84.7
0°-90°	1109.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1109.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	545	545	545	545	545	
5°	712	658	546	458	437	70
15°	680	740	507	350	321	187
25°	450	573	442	276	253	207
35°	333	401	353	223	208	208
45°	232	285	262	178	176	178
55°	133	196	176	136	139	122
65°	80	115	105	93	98	80
75°	39	51	50	48	52	41
85°	8	10	10	11	10	10
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°	545.3	545.3	545.3	545.3	545.3	545.3	545.3	545.3	545.3
1°	575.2	572.2	559.1	559.9	550.1	539.3	529.1	522.8	517.5
2°	609.0	603.0	582.4	572.2	550.1	526.9	505.9	500.3	493.2
3°	649.8	635.6	607.1	583.1	549.4	515.7	486.8	476.7	475.6
4°	682.8	670.1	632.2	594.4	547.5	504.8	472.2	461.3	456.1
5°	712.4	704.2	658.4	608.6	546.0	494.3	457.9	443.0	437.0
6°	746.5	729.6	679.4	622.8	543.4	484.2	445.2	427.2	419.0
7°	760.4	749.9	703.0	632.2	540.0	472.6	429.1	409.6	403.6
8°	770.1	766.0	721.8	647.6	538.5	461.7	414.8	402.9	395.7
9°	774.2	770.9	735.3	653.9	535.9	456.1	407.7	387.9	380.0
10°	770.9	772.4	745.0	663.7	531.8	444.5	395.7	378.5	368.8
11°	763.0	766.7	750.2	674.9	526.5	435.1	384.9	367.3	357.9
12°	748.0	756.2	752.5	682.8	521.7	426.8	377.4	360.5	352.3
13°	724.8	743.1	751.0	686.2	518.7	417.5	368.0	348.5	338.0
14°	703.8	722.9	746.9	693.7	513.4	407.0	359.4	339.9	330.9
15°	680.2	702.3	740.1	695.9	507.4	398.4	350.4	329.0	320.8
16°	647.2	676.8	727.8	698.5	500.3	388.6	342.1	321.9	311.0
17°	619.8	651.7	718.4	700.0	496.5	381.1	335.0	311.0	303.9
18°	594.7	630.7	701.5	698.9	490.5	372.5	324.5	303.2	296.4
19°	574.9	604.1	684.7	696.3	482.3	364.3	316.7	297.6	289.7
20°	546.0	579.7	665.9	695.2	474.8	356.8	309.2	289.7	282.9
21°	522.0	556.5	648.7	691.4	469.6	349.6	303.5	282.2	276.2
22.5°	490.5	520.9	619.8	684.3	457.9	337.6	291.2	275.1	266.8
23°	486.8	512.7	612.3	682.0	454.6	335.0	287.1	270.9	264.2
24°	463.2	490.5	594.7	674.9	446.0	326.8	280.3	266.1	258.2
25°	450.1	472.6	573.0	668.2	441.8	319.3	275.8	259.7	253.0
26°	431.7	457.6	553.5	658.4	432.8	312.5	268.7	254.1	247.7
27°	418.2	440.0	533.3	651.3	422.3	305.4	263.1	248.5	240.6
28°	405.1	426.1	513.8	639.7	414.8	297.6	259.0	243.6	236.1
29°	391.6	410.0	498.0	630.7	407.7	290.8	252.6	237.2	230.1
30°	380.4	397.2	478.2	618.7	398.0	282.9	247.0	232.7	226.3
32.5°	354.5	368.8	437.7	590.2	374.7	267.2	233.5	220.4	216.6
35°	332.8	342.1	400.6	558.4	353.0	250.3	222.6	209.9	208.0
37.5°	309.9	318.9	366.9	525.0	330.2	235.0	210.2	202.0	200.5
40°	284.8	296.8	338.0	492.0	307.3	220.0	199.4	193.0	193.4
42.5°	259.7	273.6	309.9	453.4	285.9	205.7	188.9	184.4	185.1
45°	231.6	249.2	284.8	418.2	262.3	192.2	178.4	176.1	176.1
47.5°	202.4	224.8	263.1	381.9	239.8	178.8	168.3	166.8	167.5
50°	177.3	197.5	238.7	346.6	218.5	166.4	157.8	157.4	158.1
52.5°	152.5	172.8	217.4	313.7	196.7	155.1	147.7	147.7	148.4
55°	133.0	148.8	196.0	279.2	176.1	142.0	136.0	137.2	138.7
57.5°	119.5	130.0	175.0	246.2	157.0	129.3	125.5	126.3	128.2
60°	104.6	112.8	154.4	215.9	139.4	116.9	115.0	116.5	118.4
62.5°	91.1	98.2	134.9	188.5	120.3	104.9	104.2	106.4	108.3
65°	80.2	85.1	114.7	160.8	104.9	92.9	92.6	95.9	98.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	69.0	72.7	97.1	134.5	89.6	80.9	80.9	84.7	86.6
70°	58.5	61.5	80.2	110.9	76.4	69.0	69.3	73.8	75.3
72.5°	47.6	50.2	65.2	89.2	61.8	57.7	58.8	62.6	64.1
75°	38.6	40.5	51.3	70.5	49.5	46.1	47.6	51.0	52.1
77.5°	29.6	31.1	37.8	51.7	37.8	36.0	37.5	40.5	40.5
80°	21.7	22.1	27.0	36.4	27.0	25.9	27.7	29.2	29.2
82.5°	14.2	15.0	17.6	23.2	18.0	17.6	18.4	19.5	19.5
85°	8.2	8.6	9.7	12.7	10.1	10.1	10.9	10.9	10.5
87.5°	3.4	3.7	4.1	4.9	4.5	4.9	4.9	4.1	4.5
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	17.38	18.90	17.75	19.22	19.53	16.96	18.48	17.32	18.79	19.11
	3H	18.58	19.95	18.96	20.28	20.64	18.47	19.84	18.85	20.16	20.53
	4H	18.98	20.26	19.38	20.61	20.99	19.00	20.28	19.40	20.63	21.01
	6H	19.23	20.42	19.65	20.78	21.18	19.35	20.53	19.76	20.90	21.29
	8H	19.30	20.42	19.72	20.81	21.21	19.45	20.57	19.87	20.96	21.37
	12H	19.33	20.41	19.76	20.79	21.22	19.50	20.58	19.93	20.96	21.39
4H	2H	18.44	19.72	18.84	20.07	20.45	18.03	19.31	18.43	19.66	20.04
	3H	19.80	20.87	20.21	21.27	21.67	19.65	20.72	20.06	21.12	21.52
	4H	20.26	21.22	20.69	21.64	22.08	20.23	21.19	20.67	21.61	22.05
	6H	20.57	21.41	21.03	21.85	22.31	20.66	21.49	21.11	21.93	22.39
	8H	20.65	21.43	21.12	21.88	22.34	20.77	21.55	21.24	22.00	22.46
	12H	20.70	21.40	21.18	21.88	22.35	20.85	21.54	21.33	22.02	22.49
8H	4H	20.62	21.40	21.08	21.84	22.31	20.58	21.36	21.04	21.80	22.27
	6H	21.02	21.66	21.52	22.16	22.63	21.10	21.74	21.59	22.23	22.71
	8H	21.14	21.72	21.66	22.23	22.72	21.26	21.84	21.78	22.35	22.84
	12H	21.23	21.74	21.74	22.23	22.79	21.39	21.90	21.90	22.39	22.95
12H	4H	20.64	21.34	21.12	21.82	22.29	20.59	21.29	21.08	21.77	22.24
	6H	21.07	21.64	21.58	22.15	22.64	21.14	21.72	21.65	22.22	22.71
	8H	21.23	21.74	21.74	22.24	22.80	21.36	21.86	21.86	22.36	22.92