

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: P735870

Luminaire Tested: S122DRP-S290D950-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735870
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-S290D950-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

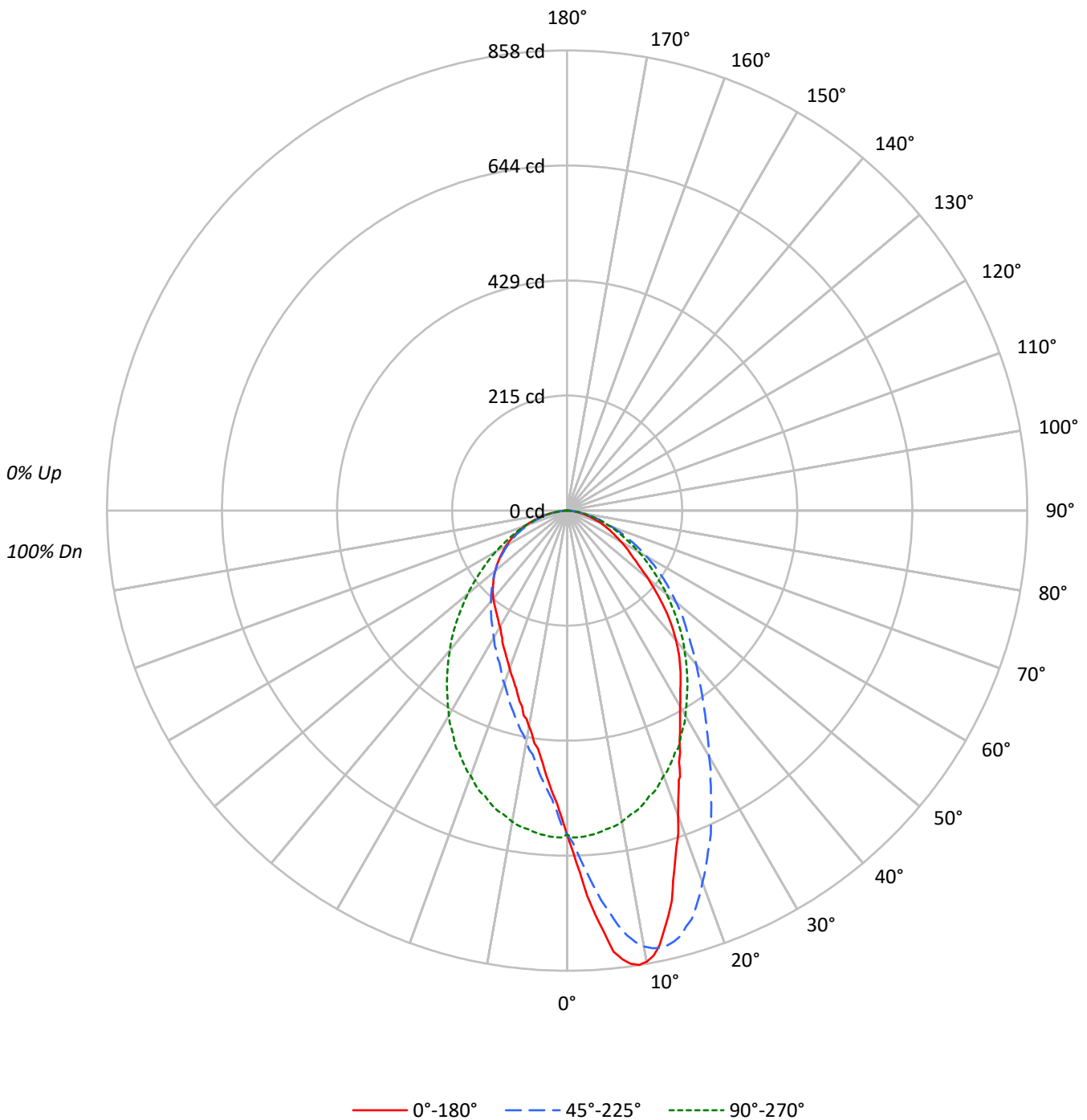
Lumens per Lamp: N/A
Luminaire Lumens: 1229.2 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

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					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°	11613	11613	11613	11613	11613
5°	15229	14077	11673	9790	9342
10°	16670	16112	11500	8559	7975
15°	14996	16319	11187	7725	7072
20°	12375	15094	10761	7008	6413
25°	10577	13465	10384	6481	5945
30°	9355	11759	9788	6073	5566
35°	8651	10416	9177	5786	5409
40°	7919	9397	8544	5543	5377
45°	6975	8579	7902	5371	5306
50°	5873	7909	7240	5227	5239
55°	4940	7279	6541	5050	5147
60°	4452	6578	5939	4901	5044
65°	4043	5781	5289	4666	4948
70°	3642	4996	4760	4316	4693
75°	3179	4226	4070	3914	4285
80°	2668	3310	3310	3398	3586
85°	2007	2382	2470	2646	2558

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 12597 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.5	4.8
10°-20°	163.2	13.3
20°-30°	214.0	17.4
30°-40°	226.2	18.4
40°-50°	210.0	17.1
50°-60°	168.1	13.7
60°-70°	115.0	9.4
70°-80°	59.3	4.8
80°-90°	14.1	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°	436.6	35.5
0°-40°	662.8	53.9
0°-60°	1040.9	84.7
0°-90°	1229.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1229.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	604	604	604	604	604	
5°	789	730	605	507	484	78
15°	754	820	562	388	355	207
25°	499	635	490	306	280	230
35°	369	444	391	247	230	230
45°	257	316	291	198	195	197
55°	147	217	195	151	154	135
65°	89	127	116	103	109	88
75°	43	57	55	53	58	46
85°	9	11	11	12	12	11
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°	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2
1°	637.4	634.1	619.5	620.4	609.6	597.5	586.3	579.2	573.4
2°	674.7	668.1	645.3	634.1	609.6	583.8	560.6	554.3	546.4
3°	720.0	704.2	672.7	646.1	608.7	571.4	539.4	528.2	526.9
4°	756.5	742.4	700.5	658.6	606.6	559.3	523.2	511.1	505.3
5°	789.3	780.2	729.6	674.3	605.0	547.7	507.4	490.8	484.2
6°	827.1	808.5	752.8	690.1	602.1	536.5	493.3	473.4	464.2
7°	842.5	830.9	779.0	700.5	598.3	523.6	475.4	453.8	447.2
8°	853.3	848.7	799.7	717.5	596.7	511.6	459.7	446.4	438.5
9°	857.9	854.1	814.7	724.6	593.8	505.3	451.8	429.8	421.0
10°	854.1	855.8	825.5	735.4	589.2	492.5	438.5	419.4	408.6
11°	845.4	849.6	831.3	747.8	583.4	482.1	426.4	406.9	396.5
12°	828.8	837.9	833.8	756.5	578.0	472.9	418.1	399.4	390.3
13°	803.1	823.4	832.1	760.3	574.7	462.6	407.8	386.2	374.5
14°	779.8	801.0	827.6	768.6	568.9	450.9	398.2	376.6	366.6
15°	753.6	778.1	820.1	771.1	562.2	441.4	388.2	364.6	355.4
16°	717.1	749.9	806.4	774.0	554.3	430.6	379.1	356.7	344.6
17°	686.8	722.1	796.0	775.6	550.2	422.3	371.2	344.6	336.8
18°	659.0	698.8	777.3	774.4	543.5	412.7	359.6	335.9	328.4
19°	637.0	669.3	758.6	771.5	534.4	403.6	350.9	329.7	321.0
20°	605.0	642.4	737.9	770.2	526.1	395.3	342.6	321.0	313.5
21°	578.4	616.6	718.8	766.1	520.3	387.4	336.3	312.7	306.0
22.5°	543.5	577.2	686.8	758.2	507.4	374.1	322.6	304.8	295.6
23°	539.4	568.0	678.5	755.7	503.7	371.2	318.1	300.2	292.7
24°	513.2	543.5	659.0	747.8	494.1	362.1	310.6	294.8	286.1
25°	498.7	523.6	634.9	740.4	489.6	353.8	305.6	287.8	280.3
26°	478.3	507.0	613.3	729.6	479.6	346.3	297.7	281.5	274.5
27°	463.4	487.5	590.9	721.7	468.0	338.4	291.5	275.3	266.6
28°	448.9	472.1	569.3	708.8	459.7	329.7	286.9	269.9	261.6
29°	433.9	454.3	551.8	698.8	451.8	322.2	279.9	262.8	255.0
30°	421.5	440.1	529.8	685.5	441.0	313.5	273.6	257.9	250.8
32.5°	392.8	408.6	485.0	654.0	415.2	296.1	258.7	244.2	240.0
35°	368.7	379.1	443.9	618.7	391.1	277.4	246.6	232.5	230.5
37.5°	343.4	353.4	406.5	581.7	365.8	260.3	232.9	223.8	222.1
40°	315.6	328.9	374.5	545.2	340.5	243.7	220.9	213.8	214.3
42.5°	287.8	303.1	343.4	502.4	316.8	228.0	209.3	204.3	205.1
45°	256.6	276.1	315.6	463.4	290.7	213.0	197.6	195.2	195.2
47.5°	224.2	249.1	291.5	423.1	265.7	198.1	186.4	184.8	185.6
50°	196.4	218.8	264.5	384.1	242.1	184.4	174.8	174.4	175.2
52.5°	169.0	191.4	240.8	347.5	218.0	171.9	163.6	163.6	164.4
55°	147.4	164.8	217.2	309.3	195.2	157.4	150.7	152.0	153.6
57.5°	132.5	144.1	193.9	272.8	174.0	143.3	139.1	139.9	142.0
60°	115.8	125.0	171.1	239.2	154.5	129.6	127.5	129.1	131.2
62.5°	100.9	108.8	149.5	208.9	133.3	116.3	115.4	117.9	120.0
65°	88.9	94.3	127.1	178.1	116.3	103.0	102.6	106.3	108.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	76.4	80.6	107.5	149.1	99.2	89.7	89.7	93.8	95.9
70°	64.8	68.1	88.9	122.9	84.7	76.4	76.8	81.8	83.5
72.5°	52.7	55.6	72.2	98.8	68.5	63.9	65.2	69.3	71.0
75°	42.8	44.8	56.9	78.1	54.8	51.1	52.7	56.5	57.7
77.5°	32.8	34.5	41.9	57.3	41.9	39.9	41.5	44.8	44.8
80°	24.1	24.5	29.9	40.3	29.9	28.7	30.7	32.4	32.4
82.5°	15.8	16.6	19.5	25.7	19.9	19.5	20.3	21.6	21.6
85°	9.1	9.6	10.8	14.1	11.2	11.2	12.0	12.0	11.6
87.5°	3.7	4.2	4.6	5.4	5.0	5.4	5.4	4.6	5.0
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	17.74	19.26	18.10	19.57	19.89	17.32	18.84	17.68	19.15	19.47
	3H	18.94	20.31	19.32	20.63	21.00	18.83	20.19	19.21	20.52	20.88
	4H	19.34	20.62	19.74	20.97	21.35	19.35	20.64	19.75	20.99	21.36
	6H	19.59	20.77	20.00	21.14	21.53	19.71	20.89	20.12	21.26	21.65
	8H	19.65	20.78	20.08	21.17	21.57	19.80	20.93	20.23	21.32	21.72
	12H	19.68	20.76	20.11	21.15	21.57	19.86	20.94	20.29	21.32	21.75
4H	2H	18.80	20.08	19.20	20.43	20.81	18.38	19.67	18.78	20.02	20.39
	3H	20.16	21.22	20.57	21.62	22.02	20.01	21.08	20.42	21.48	21.88
	4H	20.62	21.58	21.05	21.99	22.43	20.59	21.55	21.02	21.97	22.40
	6H	20.93	21.77	21.39	22.21	22.67	21.01	21.85	21.47	22.29	22.75
	8H	21.01	21.79	21.47	22.23	22.70	21.13	21.91	21.59	22.35	22.82
	12H	21.06	21.75	21.54	22.23	22.70	21.20	21.90	21.69	22.38	22.85
8H	4H	20.97	21.75	21.44	22.20	22.67	20.93	21.71	21.40	22.16	22.62
	6H	21.38	22.02	21.87	22.51	22.99	21.45	22.10	21.95	22.59	23.06
	8H	21.50	22.07	22.01	22.58	23.07	21.62	22.20	22.13	22.71	23.19
	12H	21.59	22.10	22.10	22.59	23.15	21.74	22.25	22.25	22.74	23.31
12H	4H	21.00	21.69	21.48	22.17	22.64	20.95	21.65	21.43	22.12	22.59
	6H	21.42	22.00	21.94	22.51	23.00	21.49	22.07	22.01	22.58	23.07
	8H	21.59	22.10	22.10	22.59	23.16	21.71	22.22	22.22	22.71	23.28