

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: P735862

Luminaire Tested: S122DRP-S290D830-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735862  
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-S290D830-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

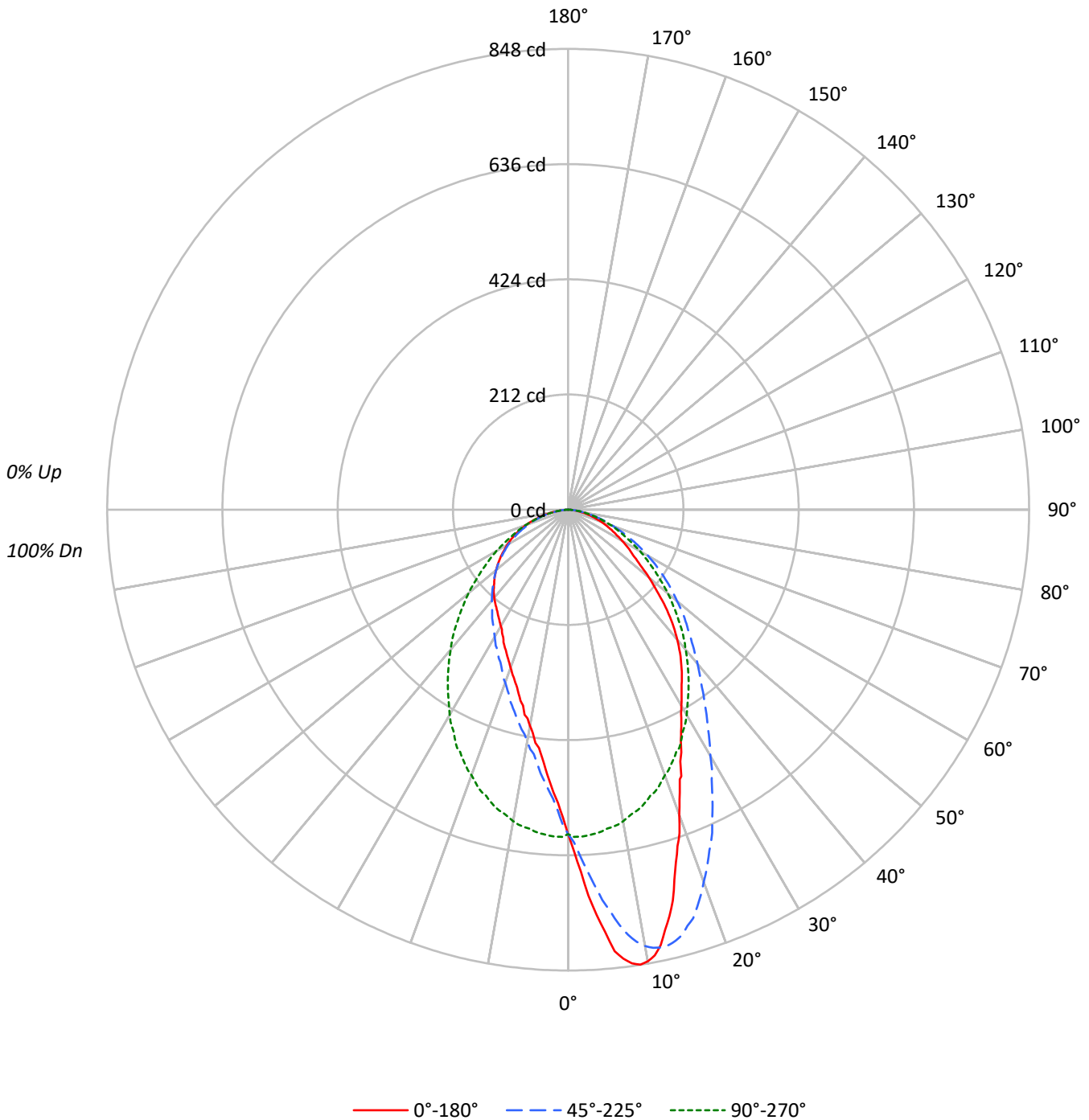
Lumens per Lamp: N/A  
Luminaire Lumens: 1214.5 lumens  
Efficiency: N/A  
Efficacy: 97.2 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

Input Watts (W): 12.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	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°	11473	11473	11473	11473	11473
5°	15048	13908	11532	9672	9229
10°	16471	15919	11361	8455	7879
15°	14817	16122	11054	7633	6989
20°	12226	14912	10632	6922	6335
25°	10449	13304	10258	6403	5873
30°	9242	11619	9670	5999	5500
35°	8548	10289	9067	5718	5343
40°	7824	9284	8441	5475	5312
45°	6891	8476	7807	5309	5241
50°	5801	7814	7153	5164	5176
55°	4879	7192	6461	4990	5087
60°	4402	6497	5866	4840	4982
65°	3993	5708	5226	4607	4889
70°	3597	4934	4704	4266	4636
75°	3141	4174	4025	3869	4233
80°	2634	3265	3265	3365	3542
85°	1985	2360	2448	2624	2536

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 12444 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.7	4.8
10°-20°	161.2	13.3
20°-30°	211.4	17.4
30°-40°	223.5	18.4
40°-50°	207.5	17.1
50°-60°	166.1	13.7
60°-70°	113.6	9.4
70°-80°	58.6	4.8
80°-90°	13.9	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°	431.4	35.5
0°-40°	654.8	53.9
0°-60°	1028.4	84.7
0°-90°	1214.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1214.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	597	597	597	597	597	
5°	780	721	598	501	478	77
15°	745	810	556	384	351	204
25°	493	627	484	302	277	227
35°	364	438	386	244	228	227
45°	254	312	287	195	193	195
55°	146	215	193	149	152	133
65°	88	126	115	101	108	87
75°	42	56	54	52	57	45
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°	596.9	596.9	596.9	596.9	596.9	596.9	596.9	596.9	596.9
1°	629.7	626.4	612.1	612.9	602.2	590.3	579.3	572.3	566.5
2°	666.6	660.1	637.5	626.4	602.2	576.8	553.8	547.7	539.9
3°	711.4	695.8	664.6	638.3	601.4	564.5	532.9	521.8	520.6
4°	747.5	733.5	692.1	650.6	599.4	552.6	516.9	505.0	499.3
5°	779.9	770.8	720.8	666.2	597.7	541.1	501.3	484.9	478.3
6°	817.2	798.7	743.8	681.8	594.9	530.0	487.4	467.7	458.7
7°	832.4	820.9	769.6	692.1	591.2	517.3	469.7	448.4	441.8
8°	843.0	838.5	790.1	708.9	589.5	505.4	454.1	441.0	433.2
9°	847.6	843.9	804.9	715.9	586.6	499.3	446.3	424.6	416.0
10°	843.9	845.5	815.6	726.5	582.1	486.5	433.2	414.3	403.7
11°	835.3	839.4	821.3	738.8	576.4	476.3	421.3	402.0	391.8
12°	818.8	827.9	823.8	747.5	571.1	467.3	413.1	394.7	385.6
13°	793.4	813.5	822.1	751.2	567.8	457.0	402.9	381.5	370.0
14°	770.4	791.4	817.6	759.4	562.0	445.5	393.4	372.1	362.2
15°	744.6	768.8	810.2	761.8	555.5	436.1	383.6	360.2	351.2
16°	708.5	740.9	796.7	764.7	547.7	425.4	374.6	352.4	340.5
17°	678.5	713.4	786.4	766.3	543.6	417.2	366.8	340.5	332.7
18°	651.1	690.4	768.0	765.1	537.0	407.8	355.3	331.9	324.5
19°	629.3	661.3	749.5	762.2	528.0	398.8	346.7	325.7	317.1
20°	597.7	634.6	729.0	761.0	519.8	390.6	338.4	317.1	309.7
21°	571.5	609.2	710.1	756.9	514.0	382.8	332.3	308.9	302.3
22.5°	537.0	570.2	678.5	749.1	501.3	369.6	318.8	301.1	292.1
23°	532.9	561.2	670.3	746.6	497.6	366.8	314.2	296.6	289.2
24°	507.1	537.0	651.1	738.8	488.2	357.7	306.9	291.3	282.7
25°	492.7	517.3	627.3	731.5	483.7	349.5	301.9	284.3	276.9
26°	472.6	500.9	605.9	720.8	473.8	342.1	294.1	278.1	271.2
27°	457.8	481.6	583.8	713.0	462.3	334.3	288.0	272.0	263.4
28°	443.5	466.4	562.4	700.3	454.1	325.7	283.5	266.7	258.5
29°	428.7	448.8	545.2	690.4	446.3	318.3	276.5	259.7	251.9
30°	416.4	434.9	523.5	677.3	435.7	309.7	270.3	254.8	247.8
32.5°	388.1	403.7	479.2	646.1	410.2	292.5	255.6	241.2	237.1
35°	364.3	374.6	438.5	611.3	386.4	274.0	243.7	229.7	227.7
37.5°	339.3	349.1	401.6	574.7	361.4	257.2	230.1	221.1	219.5
40°	311.8	324.9	370.0	538.6	336.4	240.8	218.2	211.3	211.7
42.5°	284.3	299.5	339.3	496.4	313.0	225.2	206.8	201.8	202.7
45°	253.5	272.8	311.8	457.8	287.2	210.5	195.3	192.8	192.8
47.5°	221.5	246.1	288.0	418.0	262.6	195.7	184.2	182.6	183.4
50°	194.0	216.2	261.3	379.5	239.2	182.1	172.7	172.3	173.1
52.5°	167.0	189.1	237.9	343.4	215.4	169.8	161.6	161.6	162.5
55°	145.6	162.9	214.6	305.6	192.8	155.5	148.9	150.1	151.8
57.5°	130.9	142.4	191.6	269.5	171.9	141.5	137.4	138.3	140.3
60°	114.5	123.5	169.0	236.3	152.6	128.0	125.9	127.6	129.6
62.5°	99.7	107.5	147.7	206.4	131.7	114.9	114.0	116.5	118.6
65°	87.8	93.1	125.5	176.0	114.9	101.7	101.3	105.0	107.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	75.5	79.6	106.3	147.3	98.0	88.6	88.6	92.7	94.8
70°	64.0	67.3	87.8	121.4	83.7	75.5	75.9	80.8	82.5
72.5°	52.1	55.0	71.4	97.6	67.7	63.2	64.4	68.5	70.2
75°	42.3	44.3	56.2	77.1	54.2	50.5	52.1	55.8	57.0
77.5°	32.4	34.1	41.4	56.6	41.4	39.4	41.0	44.3	44.3
80°	23.8	24.2	29.5	39.8	29.5	28.3	30.4	32.0	32.0
82.5°	15.6	16.4	19.3	25.4	19.7	19.3	20.1	21.3	21.3
85°	9.0	9.4	10.7	13.9	11.1	11.1	11.9	11.9	11.5
87.5°	3.7	4.1	4.5	5.3	4.9	5.3	5.3	4.5	4.9
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	17.70	19.22	18.06	19.53	19.85	17.27	18.79	17.64	19.11	19.42
	3H	18.90	20.27	19.28	20.59	20.96	18.78	20.15	19.16	20.48	20.84
	4H	19.30	20.58	19.70	20.93	21.31	19.31	20.59	19.71	20.94	21.32
	6H	19.55	20.73	19.96	21.10	21.49	19.66	20.85	20.08	21.22	21.61
	8H	19.61	20.74	20.04	21.13	21.53	19.76	20.89	20.19	21.28	21.68
	12H	19.64	20.72	20.07	21.10	21.53	19.81	20.89	20.24	21.28	21.71
4H	2H	18.75	20.04	19.15	20.39	20.76	18.34	19.62	18.74	19.97	20.35
	3H	20.12	21.18	20.53	21.58	21.98	19.97	21.03	20.38	21.43	21.83
	4H	20.58	21.54	21.01	21.95	22.39	20.55	21.51	20.98	21.92	22.36
	6H	20.89	21.72	21.35	22.17	22.63	20.97	21.80	21.43	22.25	22.71
	8H	20.97	21.75	21.43	22.19	22.66	21.09	21.87	21.55	22.31	22.78
	12H	21.02	21.71	21.50	22.19	22.66	21.16	21.86	21.65	22.34	22.81
8H	4H	20.93	21.71	21.40	22.16	22.62	20.89	21.67	21.35	22.11	22.58
	6H	21.34	21.98	21.83	22.47	22.95	21.41	22.05	21.91	22.55	23.02
	8H	21.46	22.03	21.97	22.54	23.03	21.58	22.15	22.09	22.66	23.15
	12H	21.54	22.05	22.05	22.55	23.11	21.70	22.21	22.21	22.70	23.27
12H	4H	20.96	21.65	21.44	22.13	22.60	20.91	21.60	21.39	22.08	22.55
	6H	21.38	21.96	21.89	22.47	22.96	21.45	22.03	21.97	22.54	23.03
	8H	21.55	22.06	22.06	22.55	23.12	21.67	22.18	22.18	22.67	23.24