

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: P735862

Luminaire Tested: S122DR-S290D830-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
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: S122DR-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

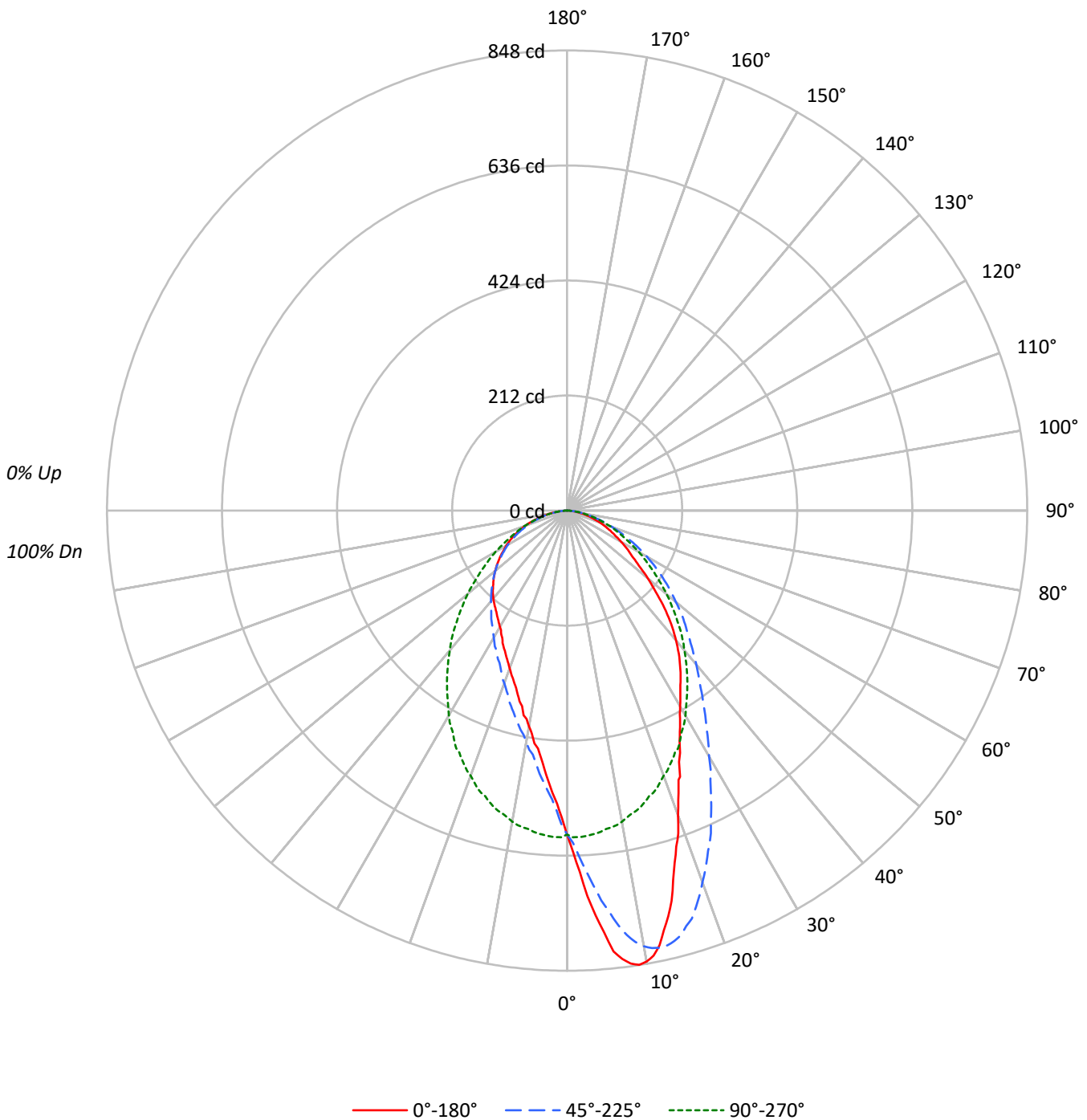
Input Watts (W): 12.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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°	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

(END OF REPORT)