

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: P735857

Luminaire Tested: S122DRP-S1005D927-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735857  
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-S1005D927-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

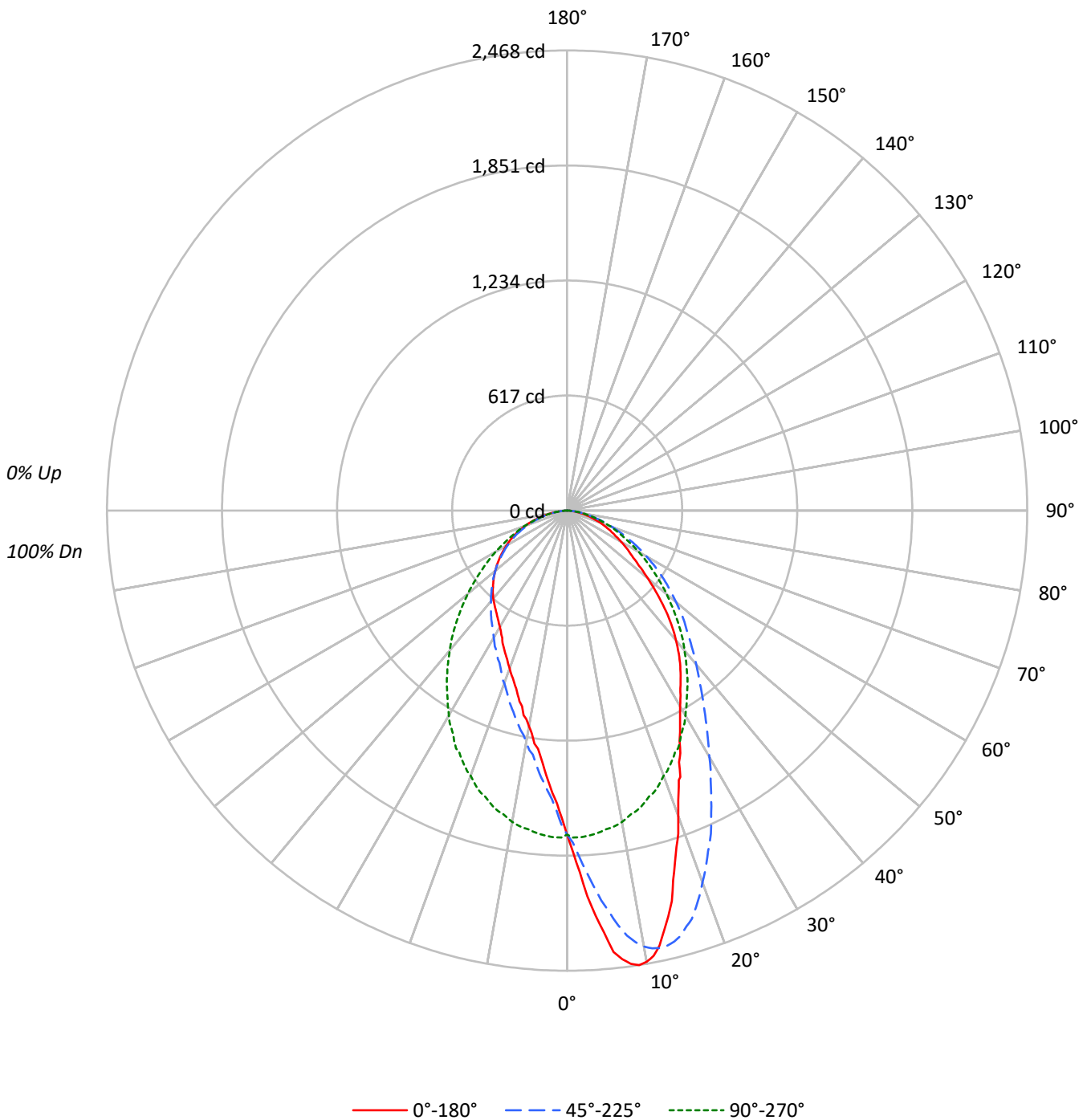
Lumens per Lamp: N/A  
Luminaire Lumens: 3536.8 lumens  
Efficiency: N/A  
Efficacy: 84.6 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

Input Watts (W): 41.8  
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				
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°	33412	33412	33412	33412	33412
5°	43822	40502	33586	28168	26878
10°	47965	46357	33089	24624	22945
15°	43150	46954	32189	22230	20351
20°	35606	43426	30963	20160	18450
25°	30432	38741	29874	18648	17102
30°	26913	33836	28161	17474	16016
35°	24894	29969	26407	16653	15560
40°	22783	27039	24582	15948	15469
45°	20069	24682	22733	15459	15263
50°	16898	22756	20827	15041	15077
55°	14212	20938	18817	14534	14812
60°	12813	18921	17084	14101	14512
65°	11630	16628	15214	13422	14236
70°	10476	14370	13696	12420	13493
75°	9142	12157	11712	11266	12335
80°	7671	9519	9519	9785	10316
85°	5800	6859	7123	7631	7388

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 36243 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	171.1	4.8
10°-20°	469.5	13.3
20°-30°	615.7	17.4
30°-40°	650.8	18.4
40°-50°	604.2	17.1
50°-60°	483.6	13.7
60°-70°	330.7	9.4
70°-80°	170.7	4.8
80°-90°	40.5	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°	1256.3	35.5
0°-40°	1907.1	53.9
0°-60°	2994.9	84.7
0°-90°	3536.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3536.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1738	1738	1738	1738	1738	
5°	2271	2099	1741	1460	1393	224
15°	2168	2360	1618	1117	1023	595
25°	1435	1827	1409	879	806	661
35°	1061	1277	1125	710	663	662
45°	738	908	836	569	562	567
55°	424	625	562	434	442	389
65°	256	366	334	295	313	254
75°	123	164	158	152	166	131
85°	26	31	32	35	34	32
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°	1738.3	1738.3	1738.3	1738.3	1738.3	1738.3	1738.3	1738.3	1738.3
1°	1833.9	1824.3	1782.5	1784.9	1753.8	1719.2	1686.9	1666.6	1649.9
2°	1941.4	1922.3	1856.6	1824.3	1753.8	1679.8	1612.9	1594.9	1572.2
3°	2071.6	2026.2	1935.4	1859.0	1751.5	1643.9	1551.9	1519.7	1516.1
4°	2176.8	2136.2	2015.5	1894.8	1745.5	1609.3	1505.3	1470.7	1454.0
5°	2271.2	2244.9	2099.1	1940.2	1740.7	1575.8	1459.9	1412.2	1393.0
6°	2379.9	2326.1	2166.0	1985.6	1732.3	1543.6	1419.3	1362.0	1335.7
7°	2424.1	2390.6	2241.3	2015.5	1721.6	1506.5	1368.0	1305.8	1286.7
8°	2455.1	2442.0	2301.0	2064.5	1716.8	1471.9	1322.6	1284.3	1261.6
9°	2468.3	2457.5	2344.0	2084.8	1708.4	1454.0	1299.9	1236.5	1211.4
10°	2457.5	2462.3	2375.1	2115.8	1695.3	1416.9	1261.6	1206.7	1175.6
11°	2432.4	2444.4	2391.8	2151.7	1678.6	1387.1	1227.0	1170.8	1141.0
12°	2384.7	2410.9	2399.0	2176.8	1663.0	1360.8	1203.1	1149.3	1123.0
13°	2310.6	2369.1	2394.2	2187.5	1653.5	1330.9	1173.2	1111.1	1077.6
14°	2243.7	2304.6	2381.1	2211.4	1636.8	1297.5	1145.7	1083.6	1054.9
15°	2168.4	2238.9	2359.6	2218.6	1617.6	1270.0	1117.1	1049.0	1022.7
16°	2063.3	2157.7	2320.1	2227.0	1594.9	1238.9	1090.8	1026.3	991.6
17°	1976.1	2077.6	2290.3	2231.7	1583.0	1215.0	1068.1	991.6	968.9
18°	1896.0	2010.7	2236.5	2228.1	1563.9	1187.5	1034.6	966.5	945.0
19°	1832.7	1925.9	2182.7	2219.8	1537.6	1161.3	1009.5	948.6	923.5
20°	1740.7	1848.2	2123.0	2216.2	1513.7	1137.4	985.6	923.5	902.0
21°	1664.2	1774.2	2068.1	2204.3	1497.0	1114.7	967.7	899.6	880.5
22.5°	1563.9	1660.7	1976.1	2181.6	1459.9	1076.4	928.3	876.9	850.6
23°	1551.9	1634.4	1952.2	2174.4	1449.2	1068.1	915.2	863.8	842.3
24°	1476.7	1563.9	1896.0	2151.7	1421.7	1041.8	893.6	848.2	823.2
25°	1434.9	1506.5	1826.7	2130.2	1408.6	1017.9	879.3	827.9	806.4
26°	1376.3	1458.8	1764.6	2099.1	1379.9	996.4	856.6	810.0	789.7
27°	1333.3	1402.6	1700.1	2076.4	1346.4	973.7	838.7	792.1	767.0
28°	1291.5	1358.4	1638.0	2039.4	1322.6	948.6	825.5	776.6	752.7
29°	1248.5	1307.0	1587.8	2010.7	1299.9	927.1	805.2	756.3	733.6
30°	1212.6	1266.4	1524.5	1972.5	1268.8	902.0	787.3	741.9	721.6
32.5°	1130.2	1175.6	1395.4	1881.7	1194.7	851.8	744.3	702.5	690.5
35°	1060.9	1090.8	1277.2	1780.1	1125.4	798.1	709.7	669.0	663.1
37.5°	988.0	1016.7	1169.6	1673.8	1052.5	749.1	670.2	644.0	639.2
40°	908.0	946.2	1077.6	1568.7	979.7	701.3	635.6	615.3	616.5
42.5°	827.9	872.1	988.0	1445.6	911.6	655.9	602.1	587.8	590.2
45°	738.3	794.5	908.0	1333.3	836.3	612.9	568.7	561.5	561.5
47.5°	645.1	716.8	838.7	1217.4	764.6	569.9	536.4	531.6	534.0
50°	565.1	629.6	761.0	1105.1	696.5	530.5	503.0	501.8	504.2
52.5°	486.3	550.8	692.9	1000.0	627.2	494.6	470.7	470.7	473.1
55°	424.1	474.3	624.8	890.1	561.5	452.8	433.7	437.3	442.0
57.5°	381.1	414.6	557.9	784.9	500.6	412.2	400.2	402.6	408.6
60°	333.3	359.6	492.2	688.2	444.4	372.8	366.8	371.6	377.5
62.5°	290.3	313.0	430.1	600.9	383.5	334.5	332.1	339.3	345.3
65°	255.7	271.2	365.6	512.5	334.5	296.3	295.1	305.8	313.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	219.8	231.8	309.4	428.9	285.5	258.1	258.1	270.0	276.0
70°	186.4	195.9	255.7	353.6	243.7	219.8	221.0	235.4	240.1
72.5°	151.7	160.1	207.9	284.3	197.1	184.0	187.6	199.5	204.3
75°	123.1	129.0	163.7	224.6	157.7	147.0	151.7	162.5	166.1
77.5°	94.4	99.2	120.7	164.9	120.7	114.7	119.5	129.0	129.0
80°	69.3	70.5	86.0	115.9	86.0	82.4	88.4	93.2	93.2
82.5°	45.4	47.8	56.2	74.1	57.3	56.2	58.5	62.1	62.1
85°	26.3	27.5	31.1	40.6	32.3	32.3	34.6	34.6	33.5
87.5°	10.8	11.9	13.1	15.5	14.3	15.5	15.5	13.1	14.3
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	21.41	22.93	21.78	23.25	23.56	20.99	22.51	21.35	22.82	23.14
	3H	22.61	23.98	22.99	24.31	24.67	22.50	23.87	22.88	24.19	24.55
	4H	23.01	24.29	23.41	24.64	25.02	23.03	24.31	23.43	24.66	25.04
	6H	23.26	24.45	23.67	24.81	25.20	23.38	24.56	23.79	24.93	25.32
	8H	23.32	24.45	23.75	24.84	25.24	23.47	24.60	23.90	24.99	25.39
	12H	23.36	24.44	23.79	24.82	25.25	23.53	24.61	23.96	24.99	25.42
4H	2H	22.47	23.75	22.87	24.10	24.48	22.06	23.34	22.46	23.69	24.07
	3H	23.83	24.89	24.24	25.29	25.69	23.68	24.75	24.09	25.15	25.55
	4H	24.29	25.25	24.72	25.66	26.10	24.26	25.22	24.70	25.64	26.08
	6H	24.60	25.44	25.06	25.88	26.34	24.68	25.52	25.14	25.96	26.42
	8H	24.68	25.46	25.15	25.91	26.37	24.80	25.58	25.26	26.02	26.49
	12H	24.73	25.43	25.21	25.90	26.38	24.88	25.57	25.36	26.05	26.52
8H	4H	24.65	25.43	25.11	25.87	26.34	24.60	25.38	25.07	25.83	26.30
	6H	25.05	25.69	25.55	26.18	26.66	25.12	25.77	25.62	26.26	26.74
	8H	25.17	25.75	25.68	26.26	26.74	25.29	25.87	25.80	26.38	26.87
	12H	25.26	25.77	25.77	26.26	26.82	25.41	25.92	25.92	26.42	26.98
12H	4H	24.67	25.37	25.15	25.84	26.31	24.62	25.32	25.10	25.80	26.27
	6H	25.09	25.67	25.61	26.18	26.67	25.17	25.74	25.68	26.25	26.74
	8H	25.26	25.77	25.77	26.26	26.83	25.38	25.89	25.89	26.38	26.95