

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: P1055397

Luminaire Tested: S122R3DR-H865D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055397
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H865D850-X4F0-XX-UDD-F-W
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

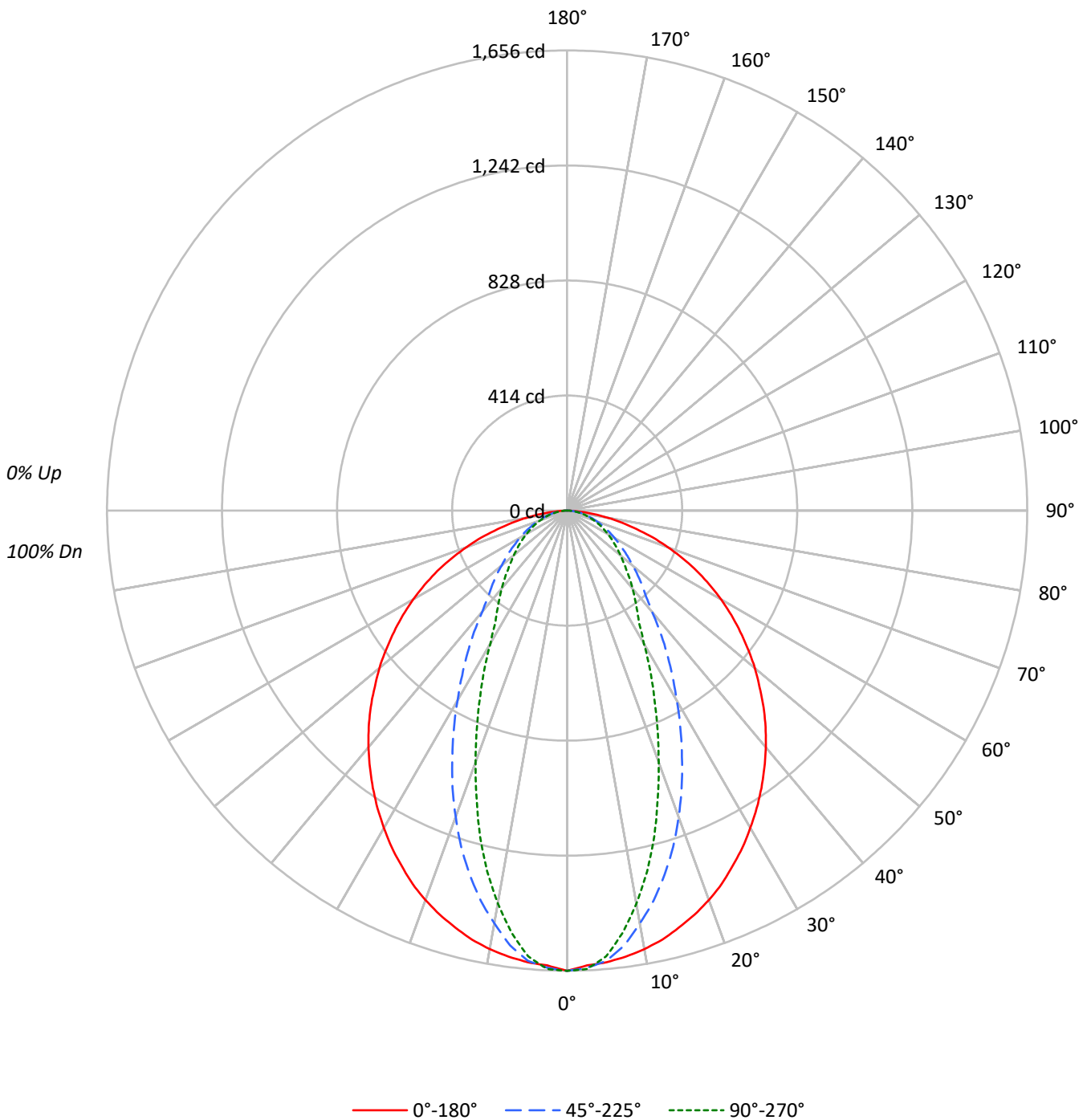
Lumens per Lamp: N/A
Luminaire Lumens: 2505.4 lumens
Efficiency: N/A
Efficacy: 81.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
Input Voltage (V): 120
Input Current (A_{in}): 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	99	108	104	101	97	100	97	94	96	94	92	92	91	89					87				
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77					75				
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68					66				
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60					58				
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54					52				
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48					46				
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44					42				
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40					38				
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37					35				
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34					32				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	31382	31382	31382
5°	31028	30924	30633
10°	30827	29015	27630
15°	30478	26595	23768
20°	30073	23652	19408
25°	29473	20440	15490
30°	28845	17270	12089
35°	28189	14446	10153
40°	27505	11716	9042
45°	26791	10243	8089
50°	26002	9063	7389
55°	25114	8188	6861
60°	24247	7453	6404
65°	23096	6828	6021
70°	21404	6370	5678
75°	18959	5776	5373
80°	16169	5444	4986
85°	11130	4826	4521

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 26791 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.8	6.1
10°-20°	383.2	15.3
20°-30°	472.2	18.8
30°-40°	453.0	18.1
40°-50°	390.8	15.6
50°-60°	303.2	12.1
60°-70°	207.6	8.3
70°-80°	112.7	4.5
80°-90°	30.9	1.2
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°	1007.2	40.2
0°-40°	1460.3	58.3
0°-60°	2154.2	86.0
0°-90°	2505.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2505.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1656	1656	1656	1656	1656	
5°	1632	1655	1626	1605	1611	155
15°	1554	1507	1356	1245	1212	438
25°	1410	1259	978	798	741	650
35°	1219	967	625	465	439	762
45°	1000	673	382	316	302	771
55°	760	404	248	215	208	681
65°	515	220	152	138	134	509
75°	259	101	79	75	73	277
85°	51	25	22	22	21	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1656.4	1656.4	1656.4	1656.4	1656.4
2.5°	1638.4	1666.1	1646.7	1646.7	1650.9
5°	1631.5	1655.0	1626.0	1605.2	1610.7
7.5°	1619.0	1635.6	1577.5	1533.2	1531.8
10°	1602.4	1603.8	1508.2	1450.1	1436.2
12.5°	1581.6	1559.5	1437.6	1350.3	1329.6
15°	1553.9	1506.8	1355.9	1245.1	1211.8
17.5°	1524.9	1452.8	1268.6	1130.1	1084.4
20°	1491.6	1387.7	1173.1	1015.2	962.6
22.5°	1454.2	1325.4	1077.5	904.4	849.0
25°	1409.9	1258.9	977.8	797.7	741.0
27.5°	1367.0	1191.1	882.2	703.6	645.4
30°	1318.5	1117.7	789.4	613.5	552.6
32.5°	1270.0	1042.9	703.6	527.7	482.0
35°	1218.8	966.7	624.6	465.3	439.0
37.5°	1166.1	891.9	549.8	423.8	400.3
40°	1112.1	817.1	473.7	383.6	365.6
42.5°	1056.7	743.7	421.0	350.4	333.8
45°	999.9	673.1	382.3	315.8	301.9
47.5°	939.0	602.5	344.9	286.7	274.2
50°	882.2	534.6	307.5	260.4	250.7
52.5°	821.3	468.1	277.0	236.8	228.5
55°	760.3	404.4	247.9	214.7	207.7
57.5°	700.8	343.5	220.2	193.9	188.4
60°	639.9	295.0	196.7	174.5	169.0
62.5°	577.5	256.2	174.5	156.5	151.0
65°	515.2	220.2	152.3	138.5	134.3
67.5°	450.1	185.6	133.0	121.9	119.1
70°	386.4	155.1	115.0	105.3	102.5
72.5°	324.1	126.0	96.9	90.0	87.3
75°	259.0	101.1	78.9	74.8	73.4
77.5°	202.2	78.9	63.7	60.9	59.6
80°	148.2	58.2	49.9	47.1	45.7
82.5°	98.3	40.2	36.0	34.6	33.2
85°	51.2	24.9	22.2	22.2	20.8
87.5°	16.6	11.1	11.1	11.1	9.7
90°	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	21.58	23.05	21.95	23.36	23.68	16.39	17.86	16.75	18.17	18.48
	3H	23.91	25.23	24.29	25.56	25.92	18.04	19.35	18.41	19.68	20.04
	4H	24.81	26.04	25.21	26.39	26.77	18.67	19.91	19.07	20.25	20.63
	6H	25.47	26.61	25.88	26.98	27.37	19.17	20.31	19.58	20.67	21.06
	8H	25.68	26.76	26.11	27.15	27.55	19.33	20.42	19.76	20.81	21.21
	12H	25.79	26.83	26.22	27.21	27.64	19.45	20.49	19.88	20.87	21.30
4H	2H	21.60	22.83	22.00	23.18	23.56	17.10	18.34	17.50	18.69	19.07
	3H	24.01	25.04	24.42	25.44	25.84	18.95	19.98	19.36	20.38	20.78
	4H	24.94	25.86	25.37	26.28	26.72	19.70	20.62	20.13	21.04	21.48
	6H	25.72	26.52	26.18	26.96	27.42	20.31	21.12	20.77	21.56	22.02
	8H	25.99	26.74	26.45	27.18	27.65	20.53	21.28	20.99	21.72	22.19
	12H	26.17	26.83	26.65	27.31	27.78	20.69	21.36	21.17	21.84	22.31
8H	4H	24.93	25.68	25.40	26.13	26.60	20.08	20.83	20.54	21.27	21.74
	6H	25.74	26.36	26.24	26.85	27.33	20.82	21.43	21.31	21.93	22.40
	8H	26.04	26.60	26.56	27.11	27.60	21.11	21.66	21.63	22.18	22.66
	12H	26.27	26.76	26.78	27.25	27.82	21.35	21.84	21.87	22.34	22.90
12H	4H	24.91	25.58	25.40	26.06	26.53	20.13	20.80	20.62	21.28	21.75
	6H	25.72	26.27	26.23	26.78	27.27	20.90	21.46	21.42	21.97	22.46
	8H	26.05	26.54	26.56	27.03	27.60	21.26	21.75	21.77	22.24	22.80