

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: P1055729

Luminaire Tested: S123R3DR-H1165D935-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055729
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H1165D935-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

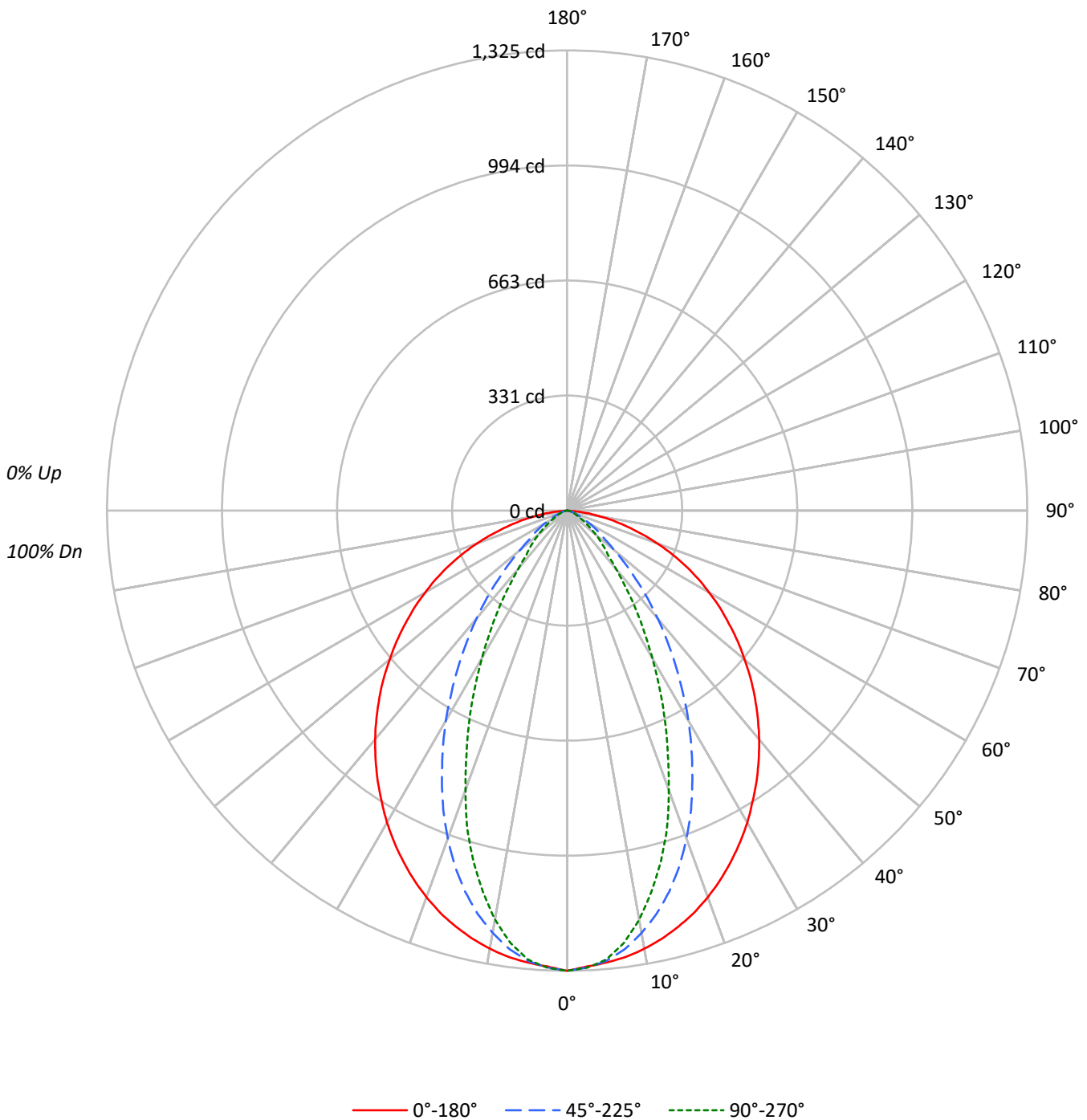
Lumens per Lamp: N/A
Luminaire Lumens: 1842.9 lumens
Efficiency: N/A
Efficacy: 50.4 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15977	15977	15977
5°	15809	15749	15703
10°	15685	15116	14639
15°	15475	14173	13028
20°	15197	12893	10975
25°	14838	11346	8856
30°	14444	9723	6820
35°	13995	8023	5047
40°	13541	6385	3440
45°	13044	4776	2592
50°	12511	3322	2026
55°	11960	2430	1478
60°	11388	1818	1061
65°	10715	1218	824
70°	9697	885	663
75°	8366	643	526
80°	6714	521	437
85°	3472	526	346

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13044 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.5	6.6
10°-20°	318.9	17.3
20°-30°	400.6	21.7
30°-40°	373.1	20.2
40°-50°	285.6	15.5
50°-60°	189.9	10.3
60°-70°	102.3	5.6
70°-80°	41.9	2.3
80°-90°	8.0	0.4
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°	842.0	45.7
0°-40°	1215.1	65.9
0°-60°	1690.6	91.7
0°-90°	1842.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1842.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1325	1325	1325	1325	1325	
5°	1306	1320	1301	1296	1298	124
15°	1240	1220	1136	1069	1044	349
25°	1115	1040	853	711	666	514
35°	951	810	545	386	343	594
45°	765	565	280	164	152	590
55°	569	329	116	80	70	510
65°	376	127	43	31	29	371
75°	180	30	14	13	11	192
85°	25	4	4	4	2	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1325.2	1325.2	1325.2	1325.2	1325.2
2.5°	1313.9	1330.2	1316.4	1317.6	1317.6
5°	1306.3	1320.2	1301.3	1296.3	1297.5
7.5°	1296.3	1305.1	1273.7	1257.3	1254.8
10°	1281.2	1283.7	1234.7	1205.8	1195.8
12.5°	1262.4	1253.6	1189.5	1141.8	1122.9
15°	1239.8	1219.7	1135.5	1068.9	1043.8
17.5°	1214.6	1180.7	1074.0	987.3	957.1
20°	1184.5	1136.8	1004.9	896.8	855.4
22.5°	1151.8	1090.3	932.0	803.9	757.4
25°	1115.4	1040.0	852.9	710.9	665.7
27.5°	1077.7	986.0	775.0	623.0	576.5
30°	1037.5	930.8	698.4	537.6	489.9
32.5°	993.6	870.5	619.3	458.5	410.7
35°	950.9	810.2	545.1	385.6	342.9
37.5°	905.6	749.9	473.5	321.6	273.8
40°	860.4	688.3	405.7	258.8	218.6
42.5°	812.7	626.8	341.7	206.0	174.6
45°	765.0	565.2	280.1	164.5	152.0
47.5°	717.2	503.7	226.1	141.9	129.4
50°	667.0	444.7	177.1	120.6	108.0
52.5°	619.3	385.6	138.2	99.2	87.9
55°	569.0	329.1	115.6	80.4	70.3
57.5°	522.5	271.3	95.5	62.8	55.3
60°	472.3	219.8	75.4	49.0	44.0
62.5°	424.6	172.1	57.8	38.9	35.2
65°	375.6	126.9	42.7	31.4	28.9
67.5°	326.6	91.7	32.7	25.1	23.9
70°	275.1	69.1	25.1	20.1	18.8
72.5°	226.1	49.0	18.8	16.3	15.1
75°	179.6	30.1	13.8	12.6	11.3
77.5°	138.2	17.6	10.0	10.0	8.8
80°	96.7	10.0	7.5	7.5	6.3
82.5°	59.0	6.3	5.0	5.0	5.0
85°	25.1	3.8	3.8	3.8	2.5
87.5°	3.8	1.3	1.3	1.3	1.3
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	19.44	20.80	19.80	21.11	21.42	8.01	9.37	8.38	9.68	10.00
	3H	21.19	22.40	21.57	22.73	23.09	8.68	9.88	9.06	10.21	10.58
	4H	21.89	23.02	22.30	23.37	23.75	8.87	10.00	9.28	10.35	10.73
	6H	22.41	23.44	22.82	23.81	24.20	9.00	10.03	9.41	10.40	10.79
	8H	22.55	23.53	22.98	23.92	24.32	9.03	10.01	9.46	10.40	10.80
	12H	22.60	23.53	23.03	23.92	24.35	9.04	9.98	9.47	10.36	10.79
4H	2H	19.25	20.37	19.65	20.72	21.11	8.57	9.69	8.97	10.05	10.43
	3H	21.04	21.96	21.45	22.37	22.77	9.37	10.29	9.78	10.69	11.10
	4H	21.74	22.56	22.17	22.98	23.42	9.63	10.45	10.06	10.87	11.31
	6H	22.31	23.02	22.77	23.46	23.93	9.82	10.54	10.29	10.98	11.45
	8H	22.48	23.14	22.95	23.59	24.06	9.88	10.54	10.35	10.99	11.46
	12H	22.57	23.15	23.05	23.64	24.11	9.91	10.50	10.40	10.98	11.45
8H	4H	21.61	22.28	22.08	22.72	23.19	9.94	10.60	10.41	11.05	11.52
	6H	22.17	22.71	22.67	23.20	23.68	10.19	10.73	10.69	11.22	11.70
	8H	22.34	22.83	22.86	23.34	23.83	10.27	10.76	10.79	11.27	11.77
	12H	22.45	22.88	22.96	23.37	23.94	10.35	10.78	10.87	11.28	11.85
12H	4H	21.57	22.16	22.06	22.64	23.11	9.99	10.57	10.47	11.05	11.53
	6H	22.11	22.59	22.63	23.11	23.60	10.23	10.72	10.75	11.23	11.72
	8H	22.30	22.73	22.82	23.23	23.80	10.36	10.79	10.87	11.28	11.85