

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: P1055709

Luminaire Tested: S123R3DR-H1000D950-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055709
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H1000D950-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

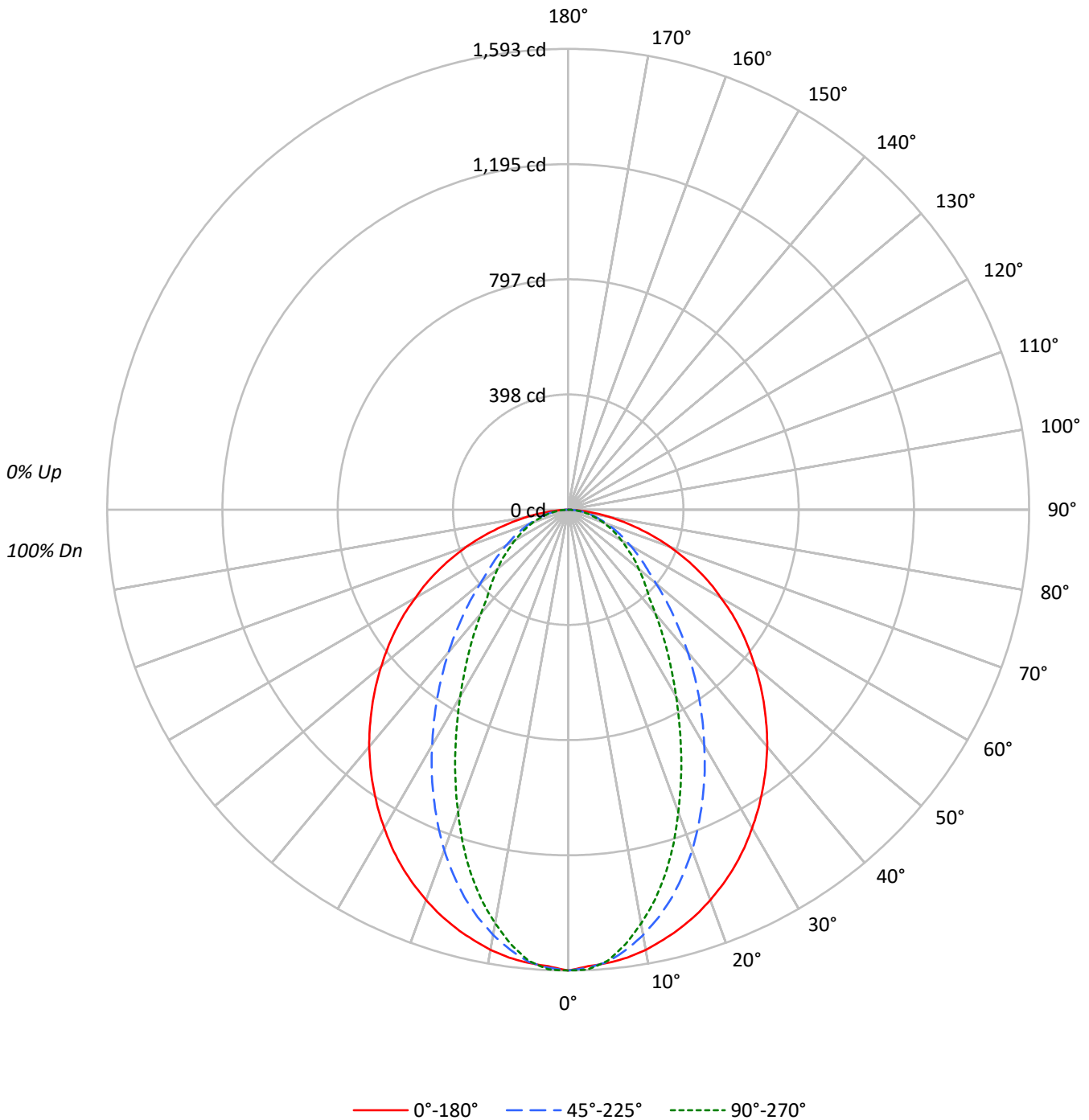
Lumens per Lamp: N/A
Luminaire Lumens: 2793.7 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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	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	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19205	19205	19205
5°	19032	18990	18946
10°	18917	18275	17780
15°	18693	17310	16239
20°	18419	16066	14277
25°	18100	14629	12282
30°	17697	13086	10383
35°	17272	11573	8768
40°	16839	10107	7369
45°	16333	8714	6500
50°	15821	7418	5966
55°	15351	6611	5509
60°	14709	5975	5143
65°	14104	5472	4827
70°	13145	5041	4537
75°	11767	4663	4272
80°	10095	4305	3971
85°	7083	3956	3790

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16333 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.7	5.3
10°-20°	390.7	14.0
20°-30°	514.6	18.4
30°-40°	522.3	18.7
40°-50°	454.0	16.3
50°-60°	355.7	12.7
60°-70°	241.7	8.7
70°-80°	131.0	4.7
80°-90°	36.1	1.3
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°	1052.9	37.7
0°-40°	1575.3	56.4
0°-60°	2385.0	85.4
0°-90°	2793.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2793.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1593	1593	1593	1593	1593	
5°	1573	1592	1569	1555	1566	149
15°	1498	1476	1387	1319	1301	422
25°	1361	1278	1100	963	923	626
35°	1174	1034	786	636	596	734
45°	958	768	511	394	381	739
55°	730	508	314	268	262	652
65°	494	274	192	172	169	488
75°	253	126	100	93	92	270
85°	51	31	29	26	27	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1592.9	1592.9	1592.9	1592.9	1592.9
2.5°	1579.8	1600.0	1584.6	1585.8	1590.5
5°	1572.6	1591.7	1569.1	1554.8	1565.5
7.5°	1561.9	1576.2	1534.5	1511.9	1515.5
10°	1545.2	1550.0	1492.8	1457.1	1452.3
12.5°	1522.6	1514.3	1442.8	1390.4	1382.0
15°	1497.6	1476.1	1386.8	1318.9	1301.0
17.5°	1469.0	1433.3	1321.3	1237.9	1210.5
20°	1435.6	1385.6	1252.2	1146.1	1112.8
22.5°	1399.9	1335.6	1177.1	1052.0	1017.5
25°	1360.6	1278.4	1099.7	962.6	923.3
27.5°	1317.7	1221.2	1021.0	874.5	830.4
30°	1271.2	1161.6	940.0	788.7	745.8
32.5°	1223.6	1098.5	862.6	708.9	667.2
35°	1173.5	1034.1	786.3	636.2	595.7
37.5°	1122.3	968.6	712.5	567.1	529.0
40°	1069.9	901.9	642.2	502.8	468.2
42.5°	1013.9	835.2	574.3	442.0	415.8
45°	957.9	768.5	511.1	394.4	381.2
47.5°	901.9	700.5	451.5	361.0	349.1
50°	843.5	635.0	395.5	330.0	318.1
52.5°	786.3	570.7	349.1	300.2	291.9
55°	730.3	507.5	314.5	268.1	262.1
57.5°	671.9	445.6	280.0	243.0	235.9
60°	610.0	386.0	247.8	216.8	213.3
62.5°	554.0	330.0	219.2	194.2	190.6
65°	494.4	274.0	191.8	171.6	169.2
67.5°	433.7	227.6	166.8	150.1	148.9
70°	372.9	191.8	143.0	129.9	128.7
72.5°	313.3	158.5	120.3	112.0	109.6
75°	252.6	126.3	100.1	92.9	91.7
77.5°	197.8	97.7	79.8	75.1	73.9
80°	145.4	72.7	62.0	58.4	57.2
82.5°	95.3	50.0	44.1	41.7	41.7
85°	51.2	31.0	28.6	26.2	27.4
87.5°	17.9	13.1	13.1	11.9	13.1
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	20.83	22.32	21.19	22.63	22.95	15.97	17.47	16.34	17.78	18.09
	3H	22.71	24.05	23.09	24.38	24.74	17.60	18.94	17.98	19.27	19.63
	4H	23.47	24.72	23.87	25.07	25.45	18.24	19.49	18.64	19.84	20.22
	6H	24.03	25.19	24.45	25.56	25.95	18.73	19.89	19.14	20.26	20.65
	8H	24.21	25.31	24.63	25.70	26.10	18.90	20.00	19.33	20.39	20.79
	12H	24.30	25.36	24.73	25.74	26.17	19.02	20.08	19.45	20.46	20.89
4H	2H	20.87	22.13	21.27	22.48	22.86	16.70	17.96	17.10	18.31	18.69
	3H	22.89	23.93	23.30	24.33	24.73	18.52	19.57	18.93	19.97	20.37
	4H	23.71	24.65	24.14	25.06	25.50	19.27	20.21	19.70	20.62	21.06
	6H	24.39	25.21	24.85	25.65	26.11	19.88	20.70	20.34	21.14	21.60
	8H	24.62	25.38	25.08	25.83	26.30	20.09	20.86	20.56	21.30	21.77
	12H	24.77	25.45	25.25	25.93	26.40	20.26	20.94	20.74	21.42	21.89
8H	4H	23.73	24.49	24.19	24.94	25.41	19.65	20.42	20.12	20.86	21.33
	6H	24.46	25.09	24.96	25.58	26.06	20.38	21.01	20.88	21.50	21.98
	8H	24.73	25.29	25.24	25.81	26.29	20.67	21.24	21.18	21.75	22.23
	12H	24.94	25.44	25.45	25.93	26.50	20.91	21.41	21.42	21.91	22.47
12H	4H	23.72	24.40	24.20	24.88	25.35	19.71	20.39	20.19	20.87	21.34
	6H	24.44	25.01	24.96	25.52	26.01	20.46	21.03	20.98	21.54	22.03
	8H	24.75	25.25	25.26	25.74	26.31	20.81	21.31	21.32	21.80	22.37