

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: P1055700

Luminaire Tested: S123R3DR-H1000D930-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055700
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-H1000D930-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

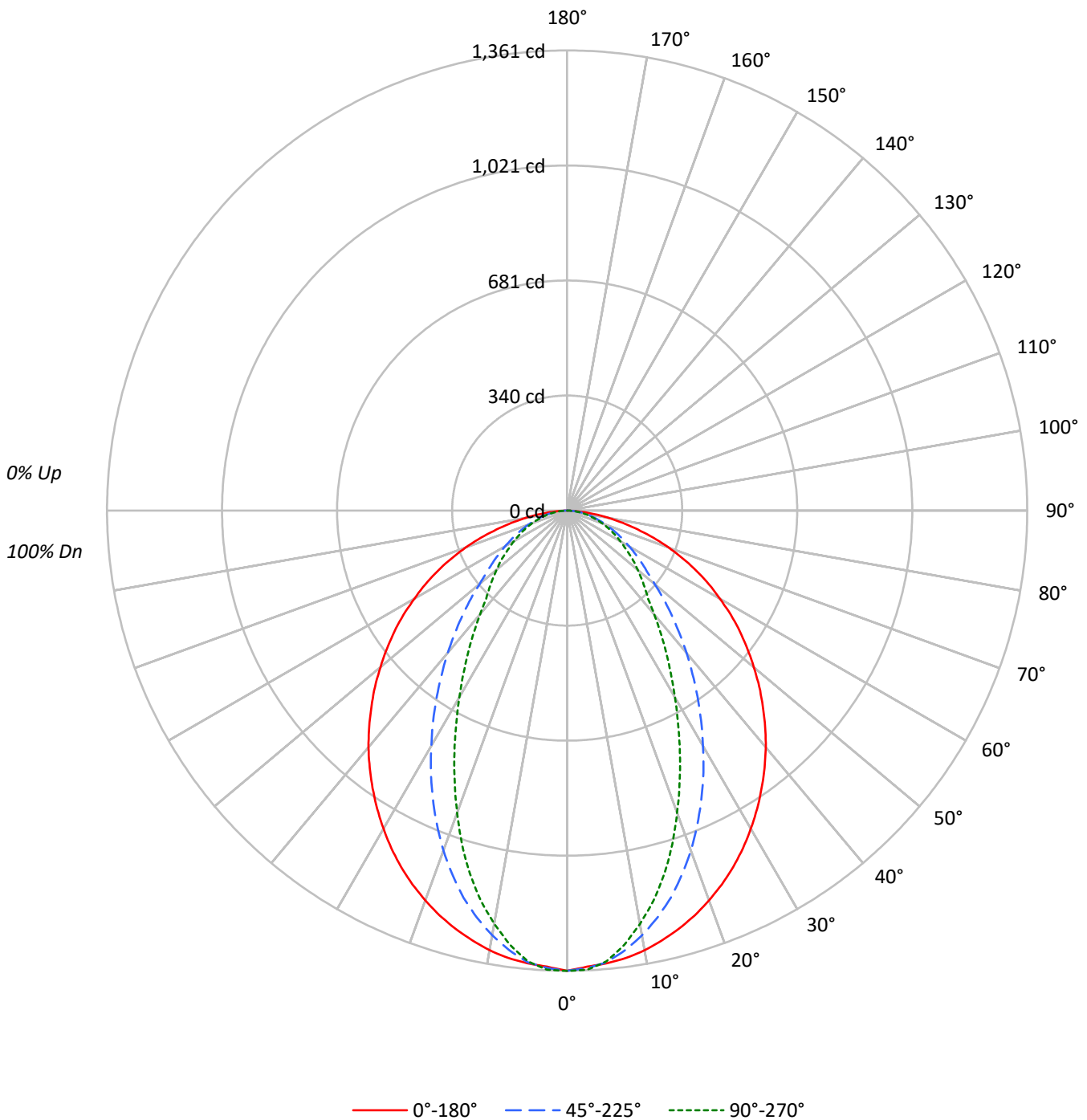
Lumens per Lamp: N/A
Luminaire Lumens: 2387.5 lumens
Efficiency: N/A
Efficacy: 77.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
Input Voltage (V): 120
Input Current (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	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°	16412	16412	16412
5°	16266	16228	16192
10°	16167	15619	15195
15°	15975	14793	13878
20°	15741	13730	12201
25°	15468	12502	10497
30°	15124	11183	8874
35°	14761	9891	7493
40°	14390	8637	6297
45°	13957	7448	5555
50°	13522	6340	5100
55°	13118	5650	4708
60°	12570	5107	4396
65°	12053	4676	4125
70°	11234	4308	3878
75°	10057	3983	3652
80°	8623	3673	3395
85°	6059	3375	3237

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13957 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	5.3
10°-20°	333.9	14.0
20°-30°	439.8	18.4
30°-40°	446.4	18.7
40°-50°	388.0	16.3
50°-60°	304.0	12.7
60°-70°	206.5	8.7
70°-80°	111.9	4.7
80°-90°	30.8	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°	899.9	37.7
0°-40°	1346.2	56.4
0°-60°	2038.2	85.4
0°-90°	2387.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2387.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1361	1361	1361	1361	1361	
5°	1344	1360	1341	1329	1338	128
15°	1280	1262	1185	1127	1112	361
25°	1163	1092	940	823	789	535
35°	1003	884	672	544	509	627
45°	819	657	437	337	326	632
55°	624	434	269	229	224	557
65°	422	234	164	147	145	417
75°	216	108	86	79	78	230
85°	44	26	24	22	23	55
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1361.3	1361.3	1361.3	1361.3	1361.3
2.5°	1350.1	1367.4	1354.2	1355.2	1359.3
5°	1344.0	1360.3	1340.9	1328.7	1337.9
7.5°	1334.8	1347.1	1311.4	1292.1	1295.1
10°	1320.6	1324.7	1275.8	1245.2	1241.2
12.5°	1301.2	1294.1	1233.0	1188.2	1181.1
15°	1279.9	1261.5	1185.2	1127.1	1111.9
17.5°	1255.4	1224.9	1129.2	1057.9	1034.5
20°	1226.9	1184.1	1070.1	979.5	951.0
22.5°	1196.4	1141.4	1006.0	899.1	869.5
25°	1162.8	1092.5	939.8	822.7	789.1
27.5°	1126.1	1043.6	872.6	747.3	709.7
30°	1086.4	992.7	803.3	674.0	637.4
32.5°	1045.7	938.8	737.2	605.8	570.2
35°	1002.9	883.8	672.0	543.7	509.1
37.5°	959.1	827.8	608.9	484.7	452.1
40°	914.3	770.8	548.8	429.7	400.1
42.5°	866.5	713.7	490.8	377.7	355.3
45°	818.6	656.7	436.8	337.0	325.8
47.5°	770.8	598.7	385.9	308.5	298.3
50°	720.9	542.7	338.0	282.0	271.9
52.5°	672.0	487.7	298.3	256.6	249.5
55°	624.1	433.7	268.8	229.1	224.0
57.5°	574.3	380.8	239.3	207.7	201.6
60°	521.3	329.9	211.8	185.3	182.3
62.5°	473.5	282.0	187.3	166.0	162.9
65°	422.5	234.2	163.9	146.6	144.6
67.5°	370.6	194.5	142.5	128.3	127.3
70°	318.7	163.9	122.2	111.0	110.0
72.5°	267.8	135.4	102.8	95.7	93.7
75°	215.9	107.9	85.5	79.4	78.4
77.5°	169.0	83.5	68.2	64.1	63.1
80°	124.2	62.1	52.9	49.9	48.9
82.5°	81.5	42.8	37.7	35.6	35.6
85°	43.8	26.5	24.4	22.4	23.4
87.5°	15.3	11.2	11.2	10.2	11.2
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	20.28	21.77	20.64	22.08	22.40	15.43	16.92	15.79	17.23	17.55
	3H	22.17	23.51	22.54	23.83	24.20	17.06	18.40	17.43	18.72	19.09
	4H	22.92	24.18	23.32	24.53	24.91	17.69	18.95	18.09	19.30	19.68
	6H	23.49	24.65	23.90	25.01	25.41	18.18	19.34	18.60	19.71	20.10
	8H	23.66	24.76	24.09	25.15	25.56	18.35	19.46	18.78	19.85	20.25
	12H	23.76	24.81	24.19	25.20	25.63	18.48	19.53	18.91	19.92	20.35
4H	2H	20.33	21.58	20.73	21.93	22.31	16.16	17.41	16.56	17.76	18.14
	3H	22.34	23.39	22.75	23.79	24.19	17.98	19.02	18.39	19.42	19.82
	4H	23.16	24.10	23.59	24.52	24.95	18.72	19.66	19.16	20.08	20.52
	6H	23.84	24.66	24.30	25.10	25.56	19.33	20.15	19.79	20.59	21.05
	8H	24.07	24.84	24.54	25.28	25.75	19.55	20.31	20.01	20.76	21.22
	12H	24.23	24.91	24.71	25.39	25.86	19.72	20.40	20.20	20.88	21.35
8H	4H	23.18	23.95	23.65	24.39	24.86	19.11	19.87	19.57	20.32	20.78
	6H	23.91	24.54	24.41	25.04	25.51	19.84	20.47	20.33	20.96	21.44
	8H	24.18	24.75	24.70	25.26	25.75	20.12	20.69	20.64	21.20	21.69
	12H	24.39	24.89	24.90	25.38	25.95	20.37	20.87	20.88	21.36	21.92
12H	4H	23.17	23.85	23.65	24.33	24.80	19.16	19.84	19.64	20.32	20.79
	6H	23.90	24.46	24.41	24.97	25.46	19.92	20.48	20.43	20.99	21.48
	8H	24.20	24.70	24.71	25.20	25.76	20.26	20.76	20.77	21.26	21.82