

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: P1055705

Luminaire Tested: S123R3DR-H1000D940-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055705
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-H1000D940-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

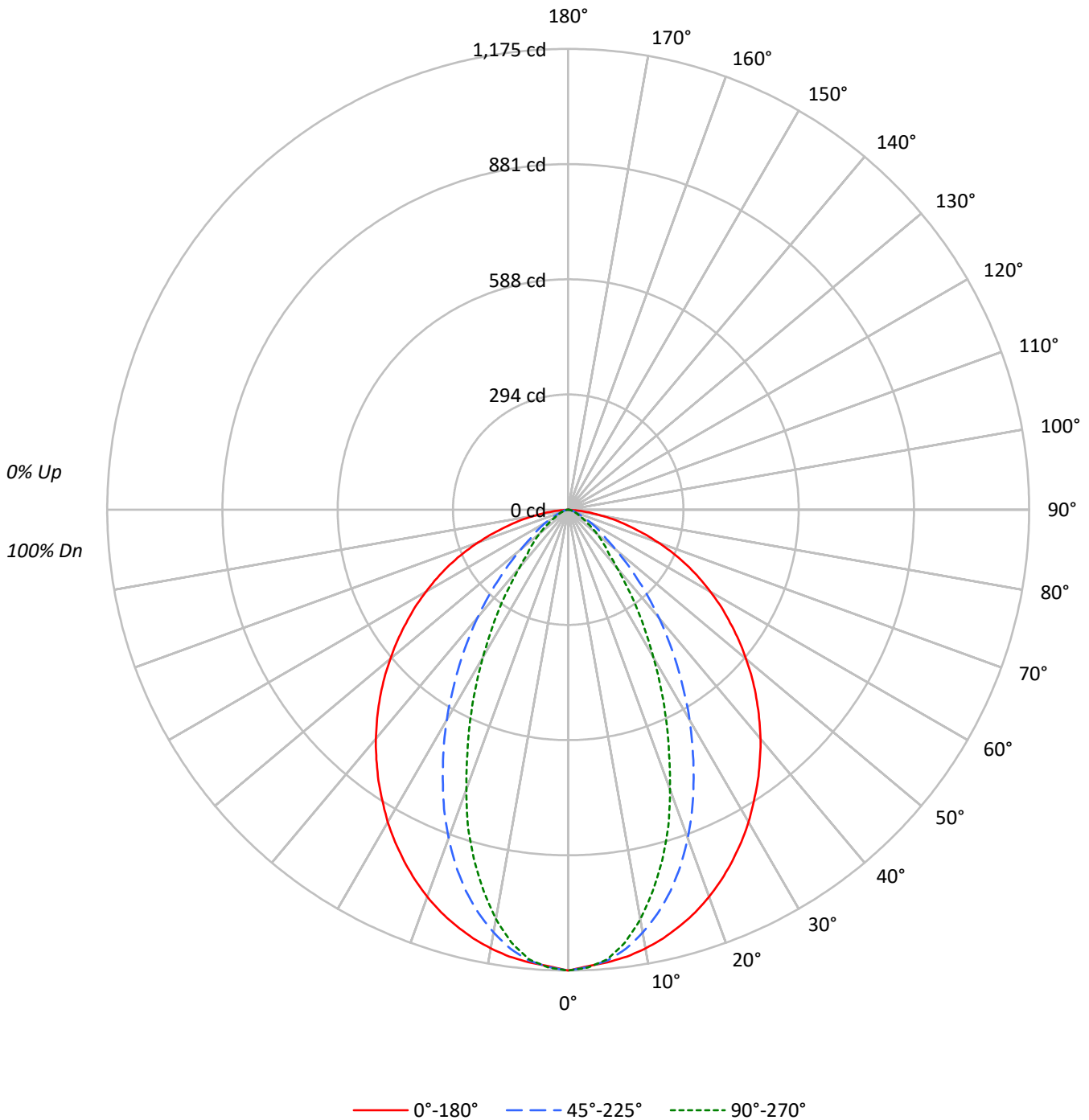
Lumens per Lamp: N/A
Luminaire Lumens: 1633.8 lumens
Efficiency: N/A
Efficacy: 52.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	14165	14165	14165
5°	14017	13963	13923
10°	13906	13402	12979
15°	13719	12565	11551
20°	13473	11430	9730
25°	13155	10058	7851
30°	12805	8620	6046
35°	12407	7113	4474
40°	12005	5661	3050
45°	11564	4234	2297
50°	11091	2945	1797
55°	10604	2155	1312
60°	10096	1611	940
65°	9500	1081	730
70°	8598	786	589
75°	7416	568	466
80°	5950	465	389
85°	3085	456	304

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11564 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.6	6.6
10°-20°	282.7	17.3
20°-30°	355.2	21.7
30°-40°	330.8	20.2
40°-50°	253.2	15.5
50°-60°	168.3	10.3
60°-70°	90.7	5.6
70°-80°	37.2	2.3
80°-90°	7.1	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°	746.5	45.7
0°-40°	1077.3	65.9
0°-60°	1498.8	91.7
0°-90°	1633.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1633.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1175	1175	1175	1175	1175	
5°	1158	1170	1154	1149	1150	110
15°	1099	1081	1007	948	925	310
25°	989	922	756	630	590	455
35°	843	718	483	342	304	527
45°	678	501	248	146	135	523
55°	504	292	102	71	62	452
65°	333	112	38	28	26	329
75°	159	27	12	11	10	170
85°	22	3	3	3	2	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1174.9	1174.9	1174.9	1174.9	1174.9
2.5°	1164.8	1179.3	1167.1	1168.2	1168.2
5°	1158.2	1170.4	1153.7	1149.2	1150.4
7.5°	1149.2	1157.0	1129.2	1114.7	1112.5
10°	1135.9	1138.1	1094.7	1069.1	1060.2
12.5°	1119.2	1111.4	1054.6	1012.3	995.6
15°	1099.1	1081.3	1006.7	947.7	925.4
17.5°	1076.9	1046.8	952.1	875.3	848.6
20°	1050.1	1007.8	890.9	795.1	758.4
22.5°	1021.2	966.6	826.3	712.7	671.5
25°	988.9	922.1	756.1	630.3	590.2
27.5°	955.5	874.2	687.1	552.3	511.1
30°	919.8	825.2	619.2	476.6	434.3
32.5°	880.9	771.7	549.0	406.5	364.1
35°	843.0	718.3	483.3	341.9	304.0
37.5°	802.9	664.8	419.8	285.1	242.8
40°	762.8	610.3	359.7	229.4	193.8
42.5°	720.5	555.7	302.9	182.6	154.8
45°	678.2	501.1	248.3	145.9	134.7
47.5°	635.9	446.6	200.4	125.8	114.7
50°	591.3	394.2	157.0	106.9	95.8
52.5°	549.0	341.9	122.5	88.0	78.0
55°	504.5	291.8	102.5	71.3	62.4
57.5°	463.3	240.5	84.6	55.7	49.0
60°	418.7	194.9	66.8	43.4	39.0
62.5°	376.4	152.6	51.2	34.5	31.2
65°	333.0	112.5	37.9	27.8	25.6
67.5°	289.5	81.3	29.0	22.3	21.2
70°	243.9	61.2	22.3	17.8	16.7
72.5°	200.4	43.4	16.7	14.5	13.4
75°	159.2	26.7	12.2	11.1	10.0
77.5°	122.5	15.6	8.9	8.9	7.8
80°	85.7	8.9	6.7	6.7	5.6
82.5°	52.3	5.6	4.5	4.5	4.5
85°	22.3	3.3	3.3	3.3	2.2
87.5°	3.3	1.1	1.1	1.1	1.1
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	19.02	20.38	19.39	20.69	21.01	7.60	8.95	7.96	9.27	9.58
	3H	20.78	21.98	21.15	22.31	22.67	8.26	9.47	8.64	9.80	10.16
	4H	21.47	22.60	21.88	22.95	23.33	8.46	9.58	8.86	9.93	10.31
	6H	21.99	23.02	22.40	23.39	23.78	8.58	9.61	8.99	9.98	10.38
	8H	22.13	23.11	22.56	23.50	23.90	8.62	9.59	9.04	9.99	10.39
	12H	22.18	23.12	22.61	23.50	23.93	8.63	9.56	9.06	9.94	10.37
4H	2H	18.83	19.95	19.23	20.30	20.69	8.15	9.28	8.56	9.63	10.01
	3H	20.62	21.54	21.03	21.95	22.35	8.95	9.87	9.37	10.28	10.68
	4H	21.32	22.14	21.75	22.56	23.00	9.21	10.03	9.65	10.45	10.90
	6H	21.89	22.60	22.35	23.04	23.51	9.41	10.12	9.87	10.57	11.03
	8H	22.06	22.73	22.53	23.17	23.64	9.46	10.13	9.93	10.57	11.04
	12H	22.15	22.73	22.63	23.22	23.69	9.50	10.08	9.98	10.57	11.04
8H	4H	21.19	21.86	21.66	22.30	22.77	9.52	10.19	9.99	10.63	11.10
	6H	21.75	22.29	22.25	22.79	23.27	9.77	10.31	10.27	10.81	11.29
	8H	21.92	22.41	22.44	22.92	23.42	9.86	10.35	10.38	10.86	11.35
	12H	22.03	22.46	22.54	22.95	23.52	9.94	10.37	10.46	10.86	11.44
12H	4H	21.15	21.74	21.64	22.22	22.69	9.57	10.15	10.05	10.64	11.11
	6H	21.69	22.18	22.21	22.69	23.18	9.82	10.30	10.34	10.82	11.31
	8H	21.88	22.31	22.40	22.81	23.38	9.95	10.38	10.46	10.87	11.44