

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: P1056116

Luminaire Tested: S124R3DR-H1195D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056116
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H1195D830-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

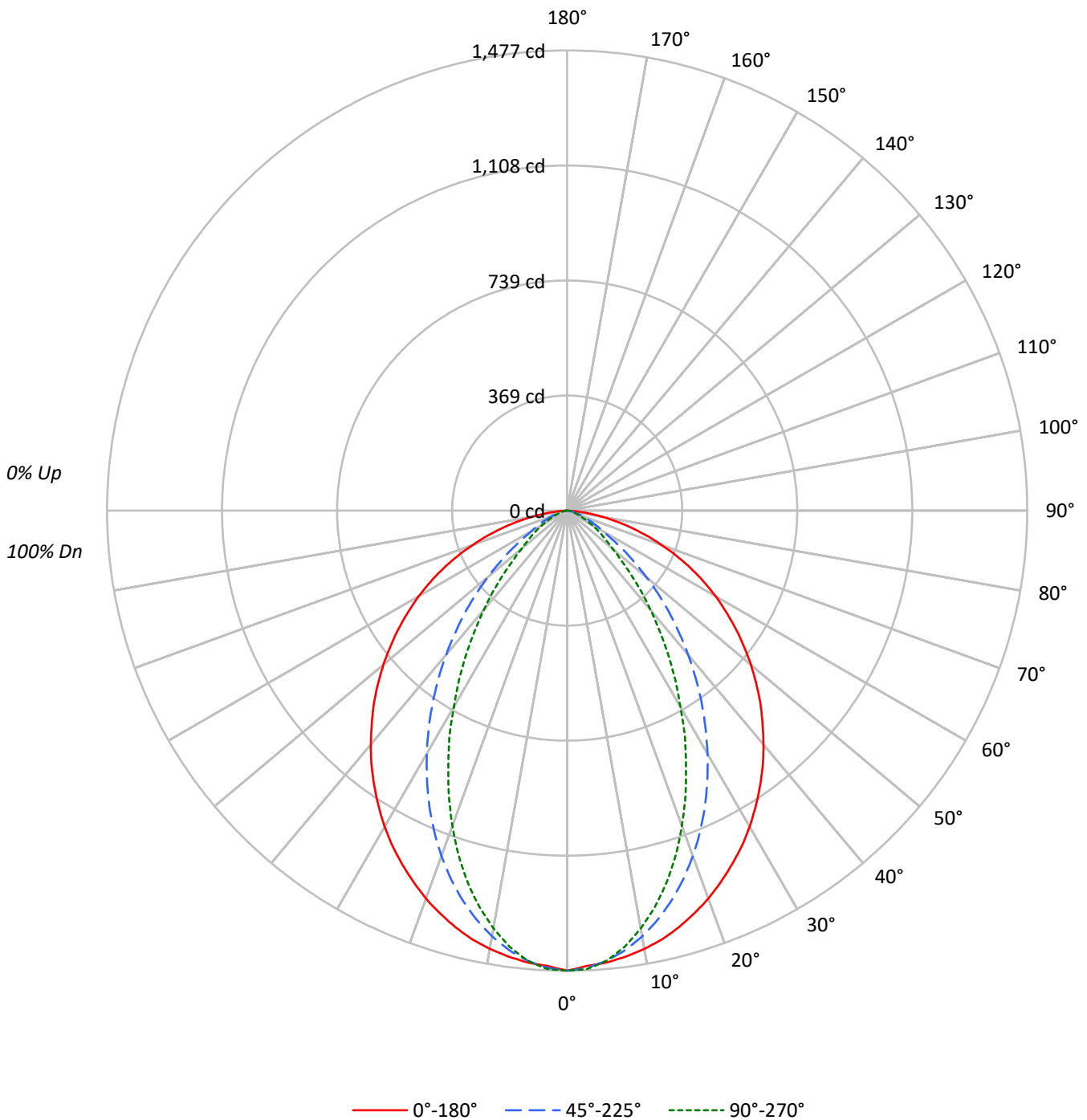
Lumens per Lamp: N/A
Luminaire Lumens: 2388.0 lumens
Efficiency: N/A
Efficacy: 65.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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	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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89					89			
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78					78			
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68					68			
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60					60			
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54					54			
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48					48			
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44					44			
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37					37			
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34					34			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13057	13057	13057
5°	12924	12875	12875
10°	12827	12456	12221
15°	12675	11856	11302
20°	12472	11100	10130
25°	12221	10208	8799
30°	11960	9195	7412
35°	11650	8119	6099
40°	11315	6968	4808
45°	10969	5794	3594
50°	10591	4558	2629
55°	10174	3370	2098
60°	9726	2334	1606
65°	9149	1812	1180
70°	8282	1280	925
75°	7235	892	704
80°	5809	703	631
85°	3206	558	558

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10969 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.0	5.7
10°-20°	366.0	15.3
20°-30°	488.2	20.4
30°-40°	491.5	20.6
40°-50°	403.1	16.9
50°-60°	275.5	11.5
60°-70°	154.0	6.4
70°-80°	61.0	2.6
80°-90°	11.6	0.5
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°	991.2	41.5
0°-40°	1482.7	62.1
0°-60°	2161.3	90.5
0°-90°	2388.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2388.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1477	1477	1477	1477	1477	
5°	1456	1473	1451	1444	1451	138
15°	1385	1370	1295	1250	1235	390
25°	1253	1191	1046	940	902	577
35°	1079	965	752	609	565	675
45°	877	716	463	326	287	676
55°	660	463	219	146	136	590
65°	437	220	87	62	56	432
75°	212	58	26	22	21	227
85°	32	6	6	6	6	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1476.8	1476.8	1476.8	1476.8	1476.8
2.5°	1463.1	1480.9	1468.6	1469.9	1472.7
5°	1456.2	1472.7	1450.7	1443.8	1450.7
7.5°	1443.8	1456.2	1423.2	1409.4	1412.2
10°	1428.7	1432.8	1387.4	1364.1	1361.3
12.5°	1409.4	1403.9	1344.8	1310.4	1302.2
15°	1384.7	1369.6	1295.3	1249.9	1234.8
17.5°	1355.8	1329.7	1240.3	1181.2	1159.2
20°	1325.6	1287.1	1179.8	1104.2	1076.7
22.5°	1289.8	1241.7	1115.2	1023.0	991.4
25°	1252.7	1190.8	1046.4	940.5	902.0
27.5°	1214.2	1138.5	974.9	856.7	818.2
30°	1171.5	1082.2	900.7	772.8	726.0
32.5°	1126.2	1024.4	826.4	690.3	646.3
35°	1079.4	965.3	752.2	609.2	565.1
37.5°	1031.3	904.8	677.9	532.1	488.1
40°	980.4	842.9	603.7	459.3	416.6
42.5°	928.2	779.7	532.1	390.5	350.6
45°	877.3	716.4	463.4	325.9	287.4
47.5°	823.7	653.2	396.0	265.4	232.4
50°	770.0	589.9	331.4	213.1	191.1
52.5°	715.0	526.6	272.3	174.6	159.5
55°	660.0	463.4	218.6	145.8	136.1
57.5°	605.0	400.1	169.1	123.8	112.8
60°	550.0	338.3	132.0	100.4	90.8
62.5°	493.6	276.4	108.6	79.8	71.5
65°	437.3	220.0	86.6	61.9	56.4
67.5°	380.9	167.8	66.0	48.1	44.0
70°	320.4	119.6	49.5	37.1	35.8
72.5°	268.1	81.1	35.8	28.9	27.5
75°	211.8	57.8	26.1	22.0	20.6
77.5°	163.6	37.1	19.3	17.9	16.5
80°	114.1	20.6	13.8	12.4	12.4
82.5°	70.1	11.0	9.6	8.3	8.3
85°	31.6	5.5	5.5	5.5	5.5
87.5°	5.5	2.8	2.8	2.8	2.8
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	19.65	21.06	20.02	21.37	21.68	10.74	12.15	11.11	12.46	12.78
	3H	21.24	22.49	21.62	22.82	23.18	11.33	12.59	11.71	12.92	13.28
	4H	21.83	23.00	22.23	23.35	23.73	11.49	12.66	11.89	13.01	13.39
	6H	22.26	23.34	22.68	23.71	24.10	11.60	12.67	12.01	13.04	13.44
	8H	22.38	23.40	22.80	23.79	24.19	11.62	12.64	12.05	13.03	13.43
	12H	22.42	23.39	22.85	23.78	24.21	11.63	12.60	12.06	12.99	13.42
4H	2H	19.50	20.67	19.91	21.02	21.40	11.33	12.49	11.73	12.84	13.23
	3H	21.15	22.11	21.56	22.51	22.92	12.04	13.00	12.45	13.40	13.80
	4H	21.76	22.62	22.19	23.03	23.48	12.24	13.10	12.68	13.52	13.96
	6H	22.25	22.99	22.71	23.44	23.90	12.41	13.15	12.87	13.59	14.06
	8H	22.39	23.08	22.86	23.53	24.00	12.44	13.13	12.91	13.58	14.05
	12H	22.47	23.08	22.95	23.56	24.03	12.47	13.08	12.95	13.56	14.04
8H	4H	21.65	22.34	22.12	22.79	23.26	12.51	13.20	12.98	13.65	14.12
	6H	22.13	22.70	22.63	23.19	23.67	12.72	13.28	13.22	13.78	14.26
	8H	22.28	22.78	22.80	23.30	23.79	12.78	13.28	13.29	13.80	14.29
	12H	22.37	22.82	22.88	23.31	23.88	12.84	13.28	13.35	13.78	14.35
12H	4H	21.61	22.23	22.10	22.71	23.18	12.54	13.15	13.02	13.63	14.11
	6H	22.08	22.59	22.60	23.10	23.59	12.75	13.25	13.27	13.77	14.26
	8H	22.24	22.69	22.75	23.18	23.75	12.84	13.29	13.35	13.78	14.35