

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: P1055723

Luminaire Tested: S123R3DR-H1165D927-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055723
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-H1165D927-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

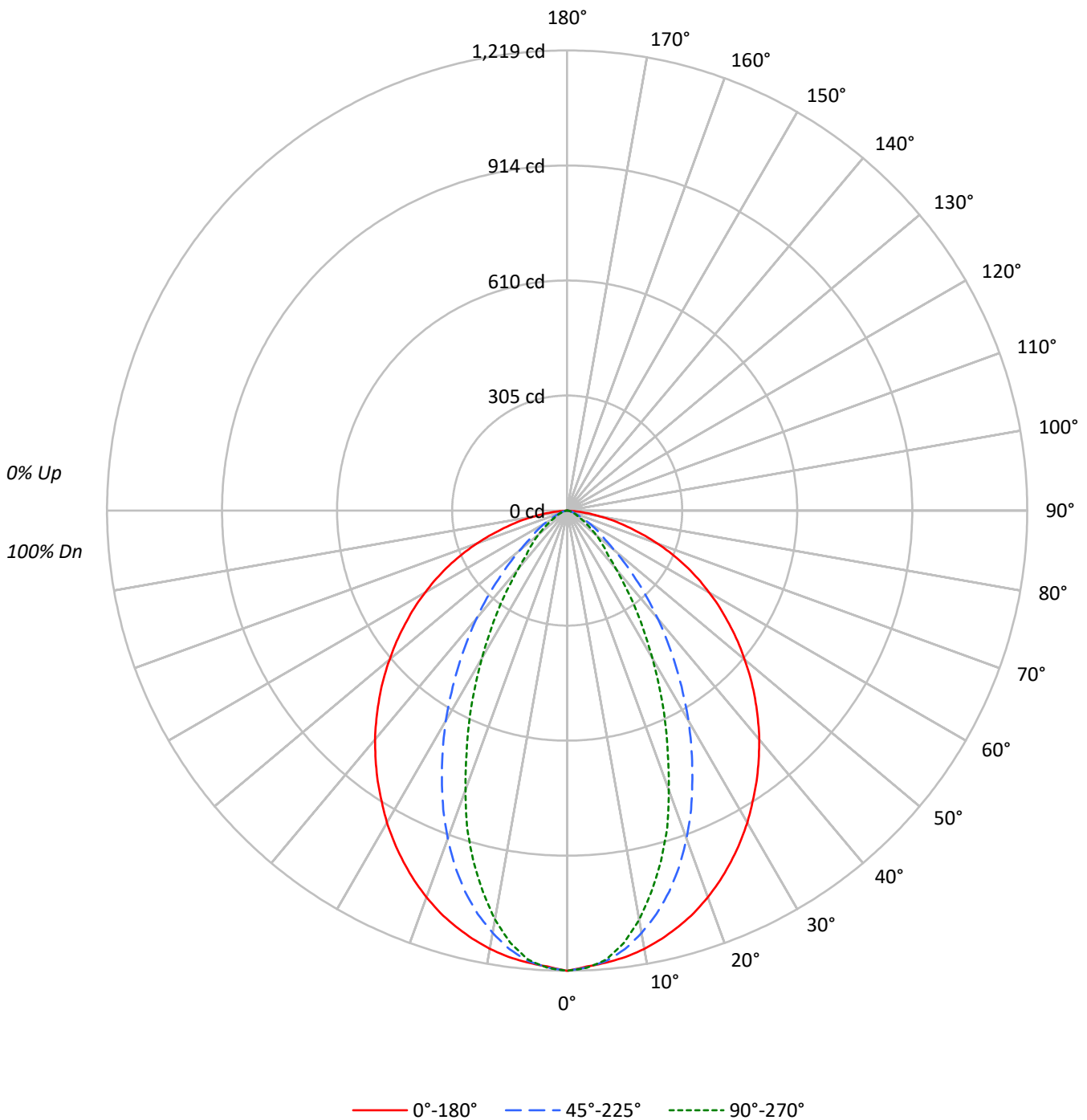
Lumens per Lamp: N/A
Luminaire Lumens: 1695.6 lumens
Efficiency: N/A
Efficacy: 46.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
Input Voltage (V): 120
Input Current (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°	14700	14700	14700
5°	14546	14490	14448
10°	14431	13907	13469
15°	14238	13040	11987
20°	13982	11863	10097
25°	13653	10439	8148
30°	13290	8946	6274
35°	12877	7383	4644
40°	12460	5875	3165
45°	12000	4394	2384
50°	11511	3057	1864
55°	11004	2234	1360
60°	10477	1671	974
65°	9859	1121	759
70°	8922	814	610
75°	7700	592	484
80°	6179	479	403
85°	3195	484	318

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12000 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.7	6.6
10°-20°	293.4	17.3
20°-30°	368.6	21.7
30°-40°	343.3	20.2
40°-50°	262.8	15.5
50°-60°	174.7	10.3
60°-70°	94.2	5.6
70°-80°	38.6	2.3
80°-90°	7.4	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°	774.7	45.7
0°-40°	1118.0	65.9
0°-60°	1555.5	91.7
0°-90°	1695.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1695.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1219	1219	1219	1219	1219	
5°	1202	1215	1197	1193	1194	114
15°	1141	1122	1045	984	960	321
25°	1026	957	785	654	612	473
35°	875	745	502	355	316	547
45°	704	520	258	151	140	543
55°	524	303	106	74	65	469
65°	346	117	39	29	27	341
75°	165	28	13	12	10	177
85°	23	4	4	4	2	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1219.3	1219.3	1219.3	1219.3	1219.3
2.5°	1208.9	1223.9	1211.2	1212.3	1212.3
5°	1201.9	1214.6	1197.3	1192.7	1193.8
7.5°	1192.7	1200.8	1171.9	1156.9	1154.5
10°	1178.8	1181.1	1136.0	1109.5	1100.2
12.5°	1161.5	1153.4	1094.4	1050.5	1033.2
15°	1140.7	1122.2	1044.7	983.5	960.4
17.5°	1117.6	1086.4	988.1	908.4	880.6
20°	1089.8	1045.9	924.6	825.2	787.0
22.5°	1059.8	1003.1	857.5	739.6	696.9
25°	1026.3	956.9	784.7	654.1	612.5
27.5°	991.6	907.2	713.1	573.2	530.5
30°	954.6	856.4	642.6	494.6	450.7
32.5°	914.2	800.9	569.8	421.8	377.9
35°	874.9	745.4	501.6	354.8	315.5
37.5°	833.3	690.0	435.7	295.9	251.9
40°	791.7	633.3	373.3	238.1	201.1
42.5°	747.7	576.7	314.3	189.5	160.6
45°	703.8	520.1	257.7	151.4	139.8
47.5°	659.9	463.4	208.0	130.6	119.0
50°	613.7	409.1	163.0	110.9	99.4
52.5°	569.8	354.8	127.1	91.3	80.9
55°	523.5	302.8	106.3	74.0	64.7
57.5°	480.8	249.6	87.8	57.8	50.9
60°	434.5	202.2	69.3	45.1	40.4
62.5°	390.6	158.3	53.2	35.8	32.4
65°	345.6	116.7	39.3	28.9	26.6
67.5°	300.5	84.4	30.0	23.1	22.0
70°	253.1	63.6	23.1	18.5	17.3
72.5°	208.0	45.1	17.3	15.0	13.9
75°	165.3	27.7	12.7	11.6	10.4
77.5°	127.1	16.2	9.2	9.2	8.1
80°	89.0	9.2	6.9	6.9	5.8
82.5°	54.3	5.8	4.6	4.6	4.6
85°	23.1	3.5	3.5	3.5	2.3
87.5°	3.5	1.2	1.2	1.2	1.2
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	19.15	20.51	19.52	20.82	21.13	7.73	9.08	8.09	9.40	9.71
	3H	20.90	22.11	21.28	22.44	22.80	8.39	9.60	8.77	9.92	10.29
	4H	21.60	22.73	22.01	23.08	23.46	8.59	9.71	8.99	10.06	10.44
	6H	22.12	23.15	22.53	23.52	23.91	8.71	9.74	9.12	10.11	10.50
	8H	22.26	23.24	22.69	23.63	24.03	8.74	9.72	9.17	10.11	10.52
	12H	22.31	23.24	22.74	23.63	24.06	8.75	9.69	9.18	10.07	10.50
4H	2H	18.96	20.08	19.36	20.43	20.82	8.28	9.41	8.69	9.76	10.14
	3H	20.75	21.67	21.16	22.08	22.48	9.08	10.00	9.49	10.41	10.81
	4H	21.45	22.27	21.88	22.69	23.13	9.34	10.16	9.78	10.58	11.03
	6H	22.02	22.73	22.48	23.17	23.64	9.54	10.25	10.00	10.69	11.16
	8H	22.19	22.85	22.66	23.30	23.77	9.59	10.25	10.06	10.70	11.17
	12H	22.28	22.86	22.76	23.35	23.82	9.62	10.21	10.11	10.69	11.16
8H	4H	21.32	21.99	21.79	22.43	22.90	9.65	10.32	10.12	10.76	11.23
	6H	21.88	22.42	22.38	22.91	23.40	9.90	10.44	10.40	10.94	11.42
	8H	22.05	22.54	22.57	23.05	23.55	9.99	10.47	10.51	10.99	11.48
	12H	22.16	22.59	22.67	23.08	23.65	10.07	10.49	10.58	10.99	11.56
12H	4H	21.28	21.87	21.77	22.35	22.82	9.70	10.28	10.18	10.77	11.24
	6H	21.82	22.31	22.34	22.82	23.31	9.94	10.43	10.47	10.95	11.44
	8H	22.01	22.44	22.53	22.94	23.51	10.07	10.50	10.58	10.99	11.56