

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: P1055792

Luminaire Tested: S123R3DR-H775D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055792
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-H775D830-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

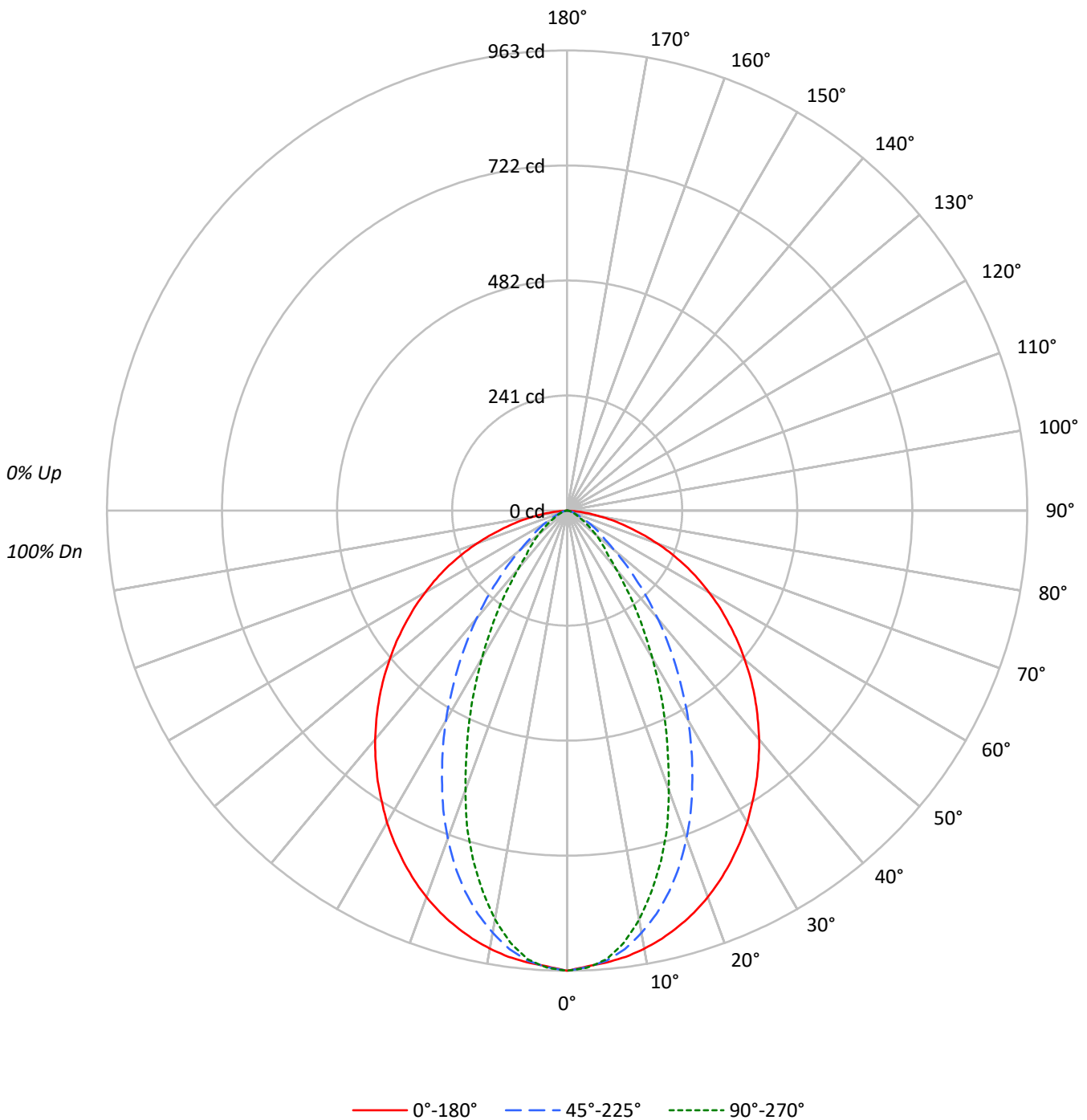
Lumens per Lamp: N/A
Luminaire Lumens: 1339.1 lumens
Efficiency: N/A
Efficacy: 56.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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	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°	11609	11609	11609
5°	11488	11444	11410
10°	11398	10984	10637
15°	11245	10299	9467
20°	11043	9369	7975
25°	10782	8244	6435
30°	10495	7065	4956
35°	10169	5830	3668
40°	9840	4640	2499
45°	9478	3470	1882
50°	9091	2414	1472
55°	8692	1766	1074
60°	8276	1321	769
65°	7785	884	599
70°	7047	645	483
75°	6079	466	382
80°	4881	382	319
85°	2531	373	249

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9478 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.0	6.6
10°-20°	231.7	17.3
20°-30°	291.1	21.7
30°-40°	271.1	20.2
40°-50°	207.6	15.5
50°-60°	138.0	10.3
60°-70°	74.4	5.6
70°-80°	30.5	2.3
80°-90°	5.8	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°	611.8	45.7
0°-40°	883.0	65.9
0°-60°	1228.5	91.7
0°-90°	1339.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1339.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	963	963	963	963	963	
5°	949	959	946	942	943	90
15°	901	886	825	777	758	254
25°	810	756	620	517	484	373
35°	691	589	396	280	249	432
45°	556	411	204	120	110	429
55°	414	239	84	58	51	370
65°	273	92	31	23	21	270
75°	130	22	10	9	8	140
85°	18	3	3	3	2	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	962.9	962.9	962.9	962.9	962.9
2.5°	954.7	966.6	956.5	957.5	957.5
5°	949.2	959.3	945.6	941.9	942.8
7.5°	941.9	948.3	925.5	913.6	911.8
10°	931.0	932.8	897.2	876.2	868.9
12.5°	917.3	910.9	864.4	829.7	816.0
15°	900.9	886.3	825.1	776.7	758.5
17.5°	882.6	858.0	780.4	717.4	695.5
20°	860.7	826.0	730.2	651.7	621.6
22.5°	837.0	792.2	677.2	584.1	550.4
25°	810.5	755.7	619.7	516.6	483.7
27.5°	783.1	716.5	563.2	452.7	418.9
30°	753.9	676.3	507.5	390.6	356.0
32.5°	722.0	632.5	450.0	333.1	298.5
35°	690.9	588.7	396.1	280.2	249.2
37.5°	658.1	544.9	344.1	233.7	199.0
40°	625.2	500.2	294.8	188.0	158.8
42.5°	590.5	455.5	248.3	149.7	126.9
45°	555.9	410.7	203.5	119.6	110.4
47.5°	521.2	366.0	164.3	103.1	94.0
50°	484.7	323.1	128.7	87.6	78.5
52.5°	450.0	280.2	100.4	72.1	63.9
55°	413.5	239.1	84.0	58.4	51.1
57.5°	379.7	197.1	69.4	45.6	40.2
60°	343.2	159.7	54.8	35.6	31.9
62.5°	308.5	125.0	42.0	28.3	25.6
65°	272.9	92.2	31.0	22.8	21.0
67.5°	237.3	66.6	23.7	18.3	17.3
70°	199.9	50.2	18.3	14.6	13.7
72.5°	164.3	35.6	13.7	11.9	11.0
75°	130.5	21.9	10.0	9.1	8.2
77.5°	100.4	12.8	7.3	7.3	6.4
80°	70.3	7.3	5.5	5.5	4.6
82.5°	42.9	4.6	3.7	3.7	3.7
85°	18.3	2.7	2.7	2.7	1.8
87.5°	2.7	0.9	0.9	0.9	0.9
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	18.33	19.69	18.69	20.00	20.31	6.90	8.26	7.27	8.57	8.89
	3H	20.08	21.29	20.46	21.62	21.98	7.57	8.77	7.94	9.10	9.46
	4H	20.78	21.91	21.19	22.26	22.64	7.76	8.89	8.16	9.24	9.62
	6H	21.30	22.33	21.71	22.70	23.09	7.88	8.92	8.30	9.29	9.68
	8H	21.44	22.42	21.87	22.81	23.21	7.92	8.90	8.35	9.29	9.70
	12H	21.49	22.42	21.92	22.81	23.24	7.93	8.87	8.36	9.25	9.68
4H	2H	18.14	19.26	18.54	19.61	20.00	7.46	8.58	7.86	8.93	9.31
	3H	19.93	20.85	20.34	21.26	21.66	8.26	9.18	8.67	9.58	9.98
	4H	20.63	21.45	21.06	21.87	22.31	8.52	9.34	8.95	9.76	10.20
	6H	21.20	21.91	21.66	22.35	22.82	8.71	9.43	9.18	9.87	10.34
	8H	21.37	22.03	21.84	22.48	22.95	8.77	9.43	9.24	9.88	10.35
	12H	21.46	22.04	21.94	22.53	23.00	8.80	9.39	9.29	9.87	10.35
8H	4H	20.50	21.17	20.97	21.61	22.08	8.83	9.49	9.30	9.94	10.41
	6H	21.06	21.60	21.56	22.09	22.58	9.08	9.62	9.58	10.12	10.60
	8H	21.23	21.72	21.75	22.23	22.73	9.17	9.66	9.69	10.17	10.66
	12H	21.34	21.77	21.85	22.26	22.83	9.25	9.68	9.76	10.17	10.74
12H	4H	20.46	21.05	20.95	21.53	22.00	8.87	9.46	9.36	9.94	10.42
	6H	21.00	21.48	21.52	22.00	22.49	9.13	9.61	9.65	10.13	10.62
	8H	21.19	21.62	21.71	22.12	22.69	9.26	9.68	9.77	10.18	10.75