

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: P1055798

Luminaire Tested: S123R3DR-H775D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055798
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-H775D840-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, 80 CRI LEDS
Ballast/Driver: -

Summary

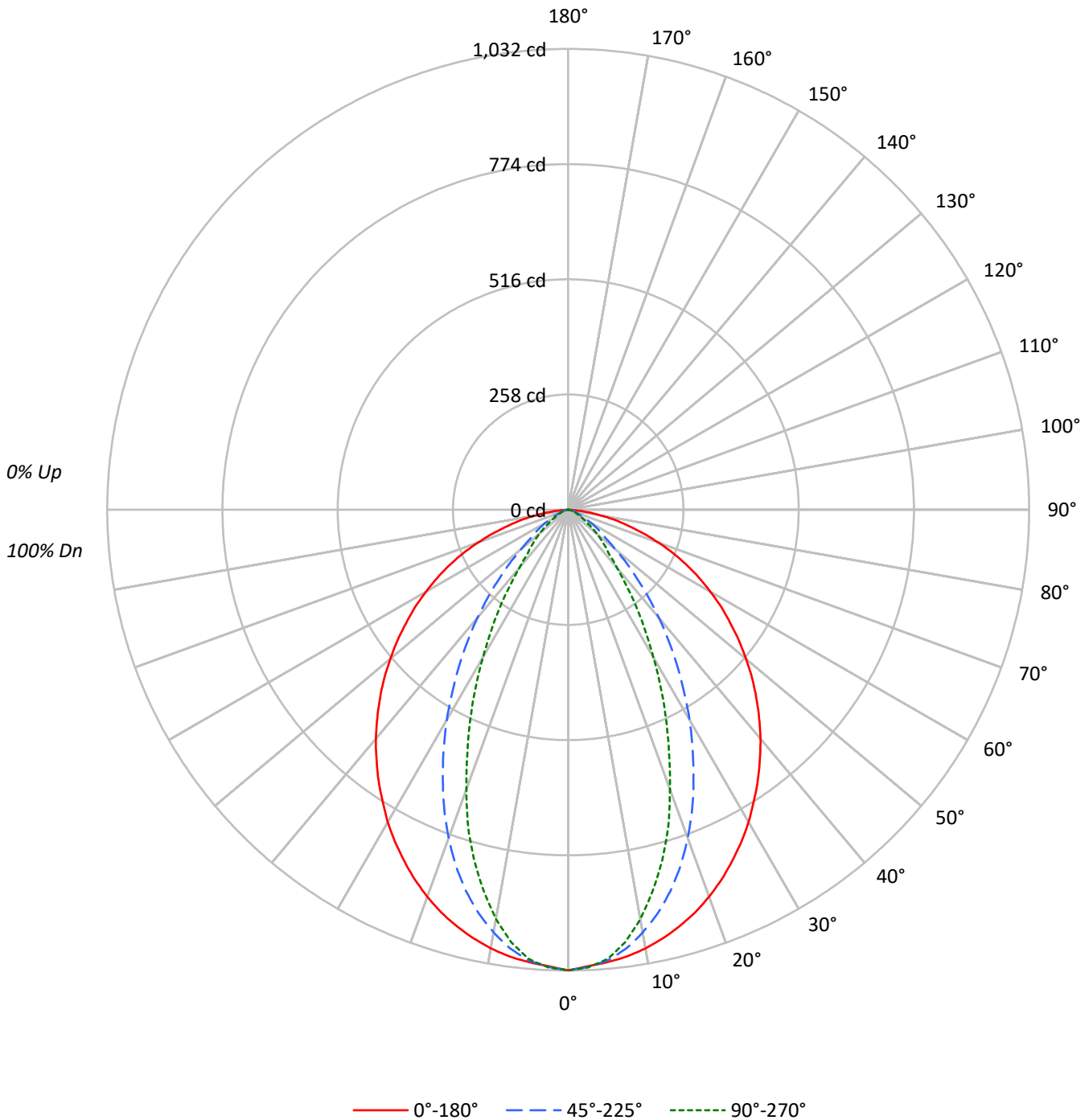
Lumens per Lamp: N/A
Luminaire Lumens: 1434.8 lumens
Efficiency: N/A
Efficacy: 60.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
Input Voltage (V): 120
Input Current (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°	12439	12439	12439
5°	12308	12261	12226
10°	12212	11769	11398
15°	12047	11034	10144
20°	11832	10037	8545
25°	11552	8833	6895
30°	11246	7569	5310
35°	10896	6246	3930
40°	10543	4972	2679
45°	10155	3719	2017
50°	9740	2587	1577
55°	9312	1892	1152
60°	8866	1415	825
65°	8342	947	642
70°	7551	691	518
75°	6512	503	410
80°	5228	410	340
85°	2711	401	277

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10155 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.4	6.6
10°-20°	248.3	17.3
20°-30°	311.9	21.7
30°-40°	290.5	20.2
40°-50°	222.4	15.5
50°-60°	147.8	10.3
60°-70°	79.7	5.6
70°-80°	32.6	2.3
80°-90°	6.2	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°	655.5	45.7
0°-40°	946.0	65.9
0°-60°	1316.2	91.7
0°-90°	1434.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1434.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1032	1032	1032	1032	1032	
5°	1017	1028	1013	1009	1010	97
15°	965	950	884	832	813	272
25°	868	810	664	554	518	400
35°	740	631	424	300	267	463
45°	596	440	218	128	118	459
55°	443	256	90	63	55	397
65°	292	99	33	24	22	289
75°	140	24	11	10	9	150
85°	20	3	3	3	2	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1031.7	1031.7	1031.7	1031.7	1031.7
2.5°	1022.9	1035.6	1024.9	1025.8	1025.8
5°	1017.0	1027.8	1013.1	1009.2	1010.2
7.5°	1009.2	1016.1	991.6	978.9	976.9
10°	997.5	999.4	961.3	938.8	931.0
12.5°	982.8	976.0	926.1	888.9	874.3
15°	965.2	949.6	884.0	832.2	812.7
17.5°	945.7	919.2	836.1	768.6	745.2
20°	922.2	885.0	782.3	698.2	666.0
22.5°	896.8	848.8	725.6	625.9	589.7
25°	868.4	809.7	664.0	553.5	518.3
27.5°	839.1	767.7	603.4	485.0	448.9
30°	807.8	724.6	543.7	418.6	381.4
32.5°	773.5	677.7	482.1	356.9	319.8
35°	740.3	630.8	424.4	300.2	267.0
37.5°	705.1	583.8	368.7	250.3	213.2
40°	669.9	535.9	315.9	201.5	170.2
42.5°	632.7	488.0	266.0	160.4	135.9
45°	595.6	440.1	218.1	128.1	118.3
47.5°	558.4	392.1	176.0	110.5	100.7
50°	519.3	346.2	137.9	93.9	84.1
52.5°	482.1	300.2	107.6	77.3	68.5
55°	443.0	256.2	90.0	62.6	54.8
57.5°	406.8	211.2	74.3	48.9	43.0
60°	367.7	171.1	58.7	38.1	34.2
62.5°	330.5	134.0	45.0	30.3	27.4
65°	292.4	98.8	33.2	24.4	22.5
67.5°	254.3	71.4	25.4	19.6	18.6
70°	214.2	53.8	19.6	15.6	14.7
72.5°	176.0	38.1	14.7	12.7	11.7
75°	139.8	23.5	10.8	9.8	8.8
77.5°	107.6	13.7	7.8	7.8	6.8
80°	75.3	7.8	5.9	5.9	4.9
82.5°	46.0	4.9	3.9	3.9	3.9
85°	19.6	2.9	2.9	2.9	2.0
87.5°	2.9	1.0	1.0	1.0	1.0
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	18.57	19.93	18.93	20.24	20.55	7.14	8.50	7.51	8.81	9.13
	3H	20.32	21.53	20.70	21.86	22.22	7.81	9.01	8.19	9.34	9.71
	4H	21.02	22.15	21.43	22.50	22.88	8.00	9.13	8.41	9.48	9.86
	6H	21.54	22.57	21.95	22.94	23.33	8.12	9.16	8.54	9.53	9.92
	8H	21.68	22.66	22.11	23.05	23.45	8.16	9.14	8.59	9.53	9.93
	12H	21.73	22.66	22.16	23.05	23.48	8.17	9.11	8.60	9.49	9.92
4H	2H	18.38	19.50	18.78	19.85	20.24	7.70	8.82	8.10	9.17	9.56
	3H	20.17	21.09	20.58	21.50	21.90	8.50	9.42	8.91	9.82	10.23
	4H	20.87	21.69	21.30	22.11	22.55	8.76	9.58	9.19	10.00	10.44
	6H	21.44	22.15	21.90	22.59	23.06	8.95	9.66	9.42	10.11	10.58
	8H	21.61	22.27	22.08	22.72	23.19	9.01	9.67	9.48	10.12	10.59
	12H	21.70	22.28	22.18	22.77	23.24	9.04	9.63	9.53	10.11	10.58
8H	4H	20.74	21.41	21.21	21.85	22.32	9.07	9.73	9.54	10.18	10.65
	6H	21.30	21.84	21.80	22.33	22.82	9.32	9.86	9.82	10.36	10.84
	8H	21.47	21.96	21.99	22.47	22.97	9.41	9.89	9.93	10.41	10.90
	12H	21.58	22.01	22.09	22.50	23.07	9.49	9.92	10.00	10.41	10.98
12H	4H	20.70	21.29	21.19	21.77	22.24	9.12	9.70	9.60	10.18	10.66
	6H	21.24	21.72	21.76	22.24	22.73	9.36	9.85	9.89	10.37	10.86
	8H	21.43	21.86	21.95	22.36	22.93	9.49	9.92	10.01	10.41	10.98