

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: P1055801

Luminaire Tested: S123R3DR-H775D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055801
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-H775D850-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

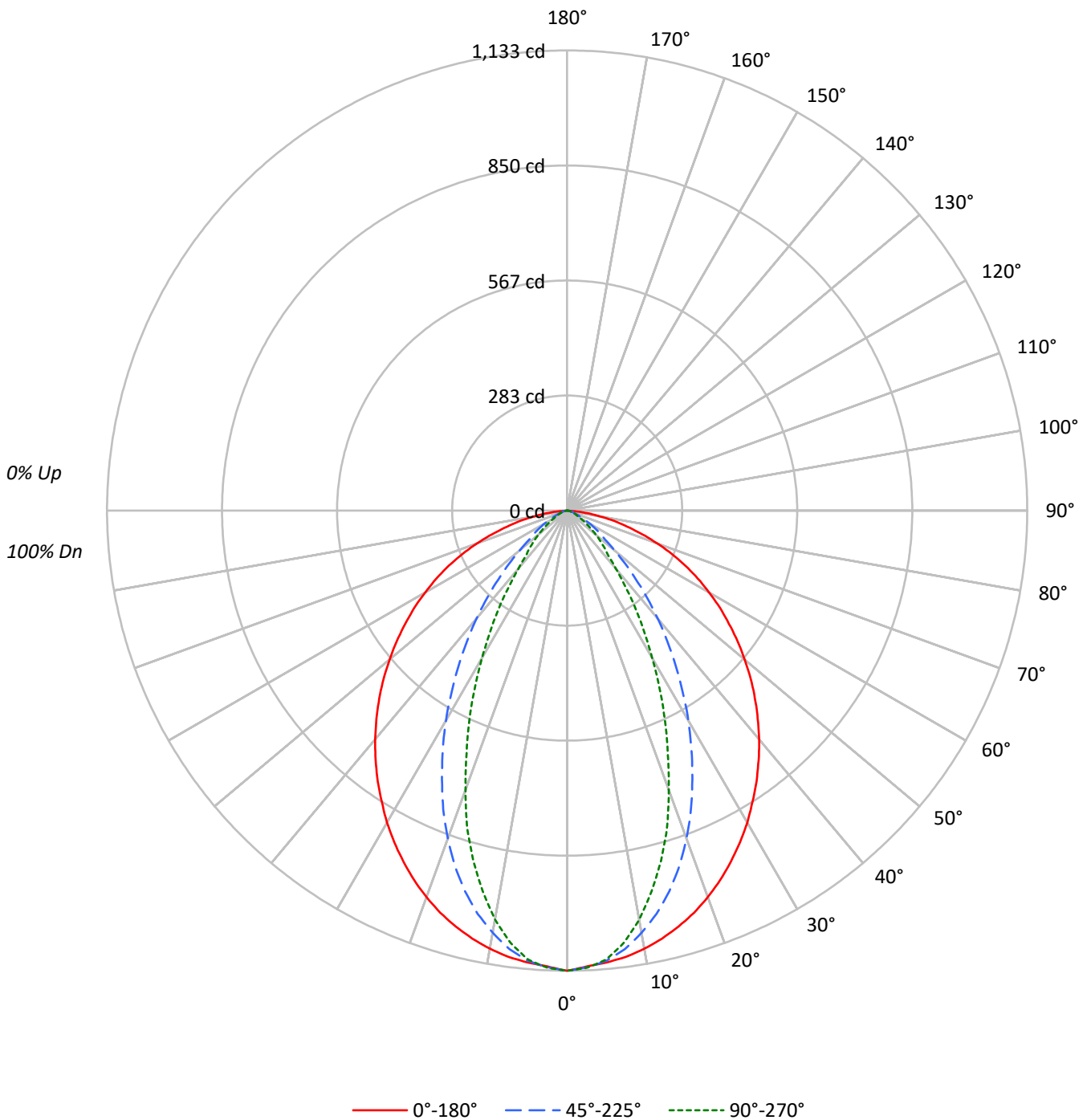
Lumens per Lamp: N/A
Luminaire Lumens: 1575.6 lumens
Efficiency: N/A
Efficacy: 66.2 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1055801

CATALOG NUMBER: S123R3DR-H775D850-X4F0-XX-UDD-F-S

Luminous Intensity Polar Plot





TEST NUMBER: P1055801

CATALOG NUMBER: S123R3DR-H775D850-X4F0-XX-UDD-F-S

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	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13660	13660	13660
5°	13517	13465	13426
10°	13410	12924	12517
15°	13231	12117	11139
20°	12993	11022	9383
25°	12686	9700	7572
30°	12350	8313	5830
35°	11966	6860	4315
40°	11577	5460	2942
45°	11151	4084	2215
50°	10697	2840	1733
55°	10226	2077	1263
60°	9737	1553	907
65°	9160	1041	705
70°	8291	758	568
75°	7155	550	452
80°	5742	444	375
85°	2974	443	290

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11151 cd/sqm



TEST NUMBER: P1055801

CATALOG NUMBER: S123R3DR-H775D850-X4F0-XX-UDD-F-S

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.7	6.6
10°-20°	272.6	17.3
20°-30°	342.5	21.7
30°-40°	319.0	20.2
40°-50°	244.2	15.5
50°-60°	162.3	10.3
60°-70°	87.5	5.6
70°-80°	35.8	2.3
80°-90°	6.9	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°	719.9	45.7
0°-40°	1038.9	65.9
0°-60°	1445.4	91.7
0°-90°	1575.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1575.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1133	1133	1133	1133	1133	
5°	1117	1129	1113	1108	1109	106
15°	1060	1043	971	914	892	299
25°	954	889	729	608	569	439
35°	813	693	466	330	293	508
45°	654	483	240	141	130	505
55°	486	281	99	69	60	436
65°	321	108	36	27	25	317
75°	154	26	12	11	10	164
85°	22	3	3	3	2	32
90°	0	0	0	0	0	



TEST NUMBER: P1055801

CATALOG NUMBER: S123R3DR-H775D850-X4F0-XX-UDD-F-S

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1133.0	<i>1133.0</i>	1133.0	1133.0	1133.0
2.5°	<i>1123.3</i>	<i>1137.3</i>	<i>1125.5</i>	<i>1126.5</i>	<i>1126.5</i>
5°	1116.9	<i>1128.7</i>	1112.6	1108.3	1109.4
7.5°	1108.3	<i>1115.8</i>	1089.0	1075.0	1072.8
10°	1095.4	<i>1097.5</i>	1055.7	1031.0	1022.4
12.5°	1079.3	<i>1071.8</i>	1017.0	976.2	960.1
15°	1060.0	<i>1042.8</i>	970.8	913.9	892.4
17.5°	1038.5	<i>1009.5</i>	918.2	844.1	818.3
20°	1012.7	<i>971.9</i>	859.1	766.8	731.3
22.5°	984.8	<i>932.2</i>	796.8	687.3	647.6
25°	953.6	<i>889.2</i>	729.2	607.8	569.2
27.5°	921.4	<i>843.0</i>	662.6	532.7	492.9
30°	887.1	<i>795.8</i>	597.1	459.6	418.8
32.5°	849.5	<i>744.2</i>	529.4	392.0	351.2
35°	813.0	<i>692.7</i>	466.1	329.7	293.2
37.5°	774.3	<i>641.1</i>	404.9	274.9	234.1
40°	735.6	<i>588.5</i>	346.9	221.2	186.9
42.5°	694.8	<i>535.9</i>	292.1	176.1	149.3
45°	654.0	<i>483.3</i>	239.5	140.7	129.9
47.5°	613.2	<i>430.6</i>	193.3	121.4	110.6
50°	570.3	<i>380.2</i>	151.4	103.1	92.4
52.5°	529.4	<i>329.7</i>	118.1	84.8	75.2
55°	486.5	<i>281.4</i>	98.8	68.7	60.1
57.5°	446.8	<i>232.0</i>	81.6	53.7	47.3
60°	403.8	<i>187.9</i>	64.4	41.9	37.6
62.5°	363.0	<i>147.1</i>	49.4	33.3	30.1
65°	321.1	<i>108.5</i>	36.5	26.8	24.7
67.5°	279.2	<i>78.4</i>	27.9	21.5	20.4
70°	235.2	<i>59.1</i>	21.5	17.2	16.1
72.5°	193.3	<i>41.9</i>	16.1	14.0	12.9
75°	153.6	<i>25.8</i>	11.8	10.7	9.7
77.5°	118.1	<i>15.0</i>	8.6	8.6	7.5
80°	82.7	<i>8.6</i>	6.4	6.4	5.4
82.5°	50.5	<i>5.4</i>	4.3	4.3	4.3
85°	21.5	<i>3.2</i>	3.2	3.2	2.1
87.5°	3.2	<i>1.1</i>	1.1	1.1	1.1
90°	0.0	<i>0.0</i>	0.0	0.0	0.0

TEST NUMBER: P1055801

CATALOG NUMBER: S123R3DR-H775D850-X4F0-XX-UDD-F-S

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	18.90	20.25	19.26	20.57	20.88	7.47	8.83	7.84	9.14	9.46
	3H	20.65	21.86	21.03	22.19	22.55	8.13	9.34	8.51	9.67	10.03
	4H	21.35	22.47	21.75	22.82	23.21	8.33	9.46	8.73	9.81	10.19
	6H	21.86	22.90	22.28	23.27	23.66	8.45	9.49	8.87	9.86	10.25
	8H	22.00	22.98	22.43	23.37	23.78	8.49	9.47	8.92	9.86	10.26
	12H	22.05	22.99	22.49	23.37	23.80	8.50	9.43	8.93	9.82	10.25
4H	2H	18.71	19.83	19.11	20.18	20.56	8.03	9.15	8.43	9.50	9.88
	3H	20.50	21.42	20.91	21.82	22.22	8.83	9.75	9.24	10.15	10.55
	4H	21.19	22.02	21.63	22.43	22.88	9.08	9.91	9.52	10.33	10.77
	6H	21.76	22.47	22.22	22.92	23.38	9.28	9.99	9.74	10.44	10.90
	8H	21.94	22.60	22.41	23.05	23.52	9.33	10.00	9.80	10.44	10.91
	12H	22.02	22.61	22.51	23.09	23.57	9.37	9.95	9.85	10.44	10.91
8H	4H	21.07	21.73	21.54	22.18	22.65	9.40	10.06	9.87	10.51	10.98
	6H	21.62	22.16	22.12	22.66	23.14	9.64	10.19	10.15	10.68	11.16
	8H	21.80	22.28	22.32	22.80	23.29	9.73	10.22	10.25	10.73	11.22
	12H	21.90	22.33	22.42	22.83	23.40	9.81	10.24	10.33	10.73	11.30
12H	4H	21.03	21.61	21.51	22.10	22.57	9.44	10.03	9.93	10.51	10.98
	6H	21.56	22.05	22.09	22.57	23.06	9.69	10.18	10.21	10.69	11.18
	8H	21.76	22.19	22.27	22.68	23.25	9.82	10.24	10.33	10.74	11.31