

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: P1439793

Luminaire Tested: S123DR-H675D935-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439793  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DR-H675D935-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

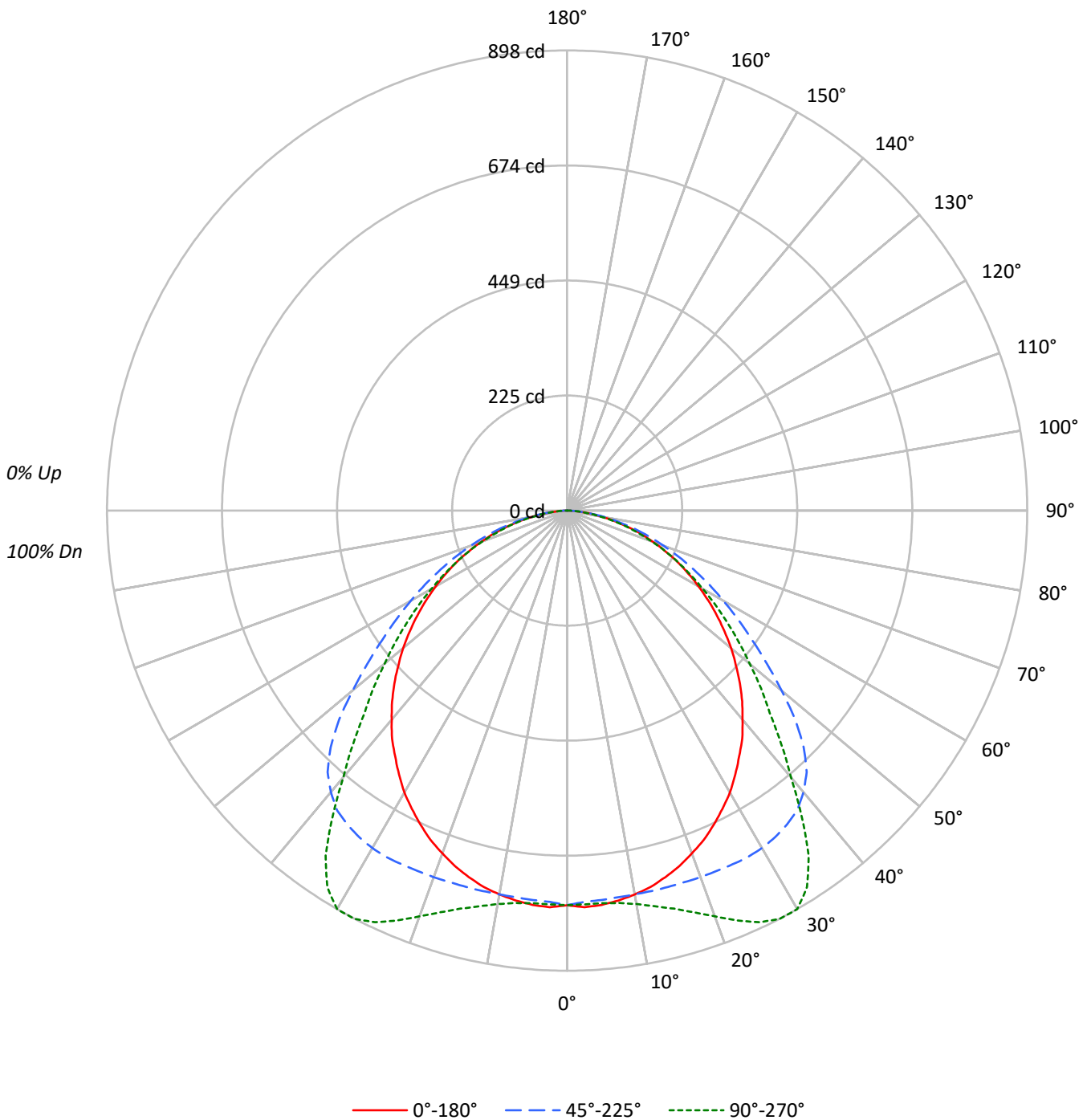
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2328.9 lumens  
Efficiency: N/A  
Efficacy: 97.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
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	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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71					71			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9283	9283	9283
5°	9348	9232	9309
10°	9309	9309	9544
15°	9243	9491	10038
20°	9134	9766	10809
25°	9003	10137	11790
30°	8846	10586	12504
35°	8615	11005	12095
40°	8384	11291	10702
45°	8133	11132	9531
50°	7840	10245	8722
55°	7498	9272	8017
60°	7142	8488	7374
65°	6792	7768	6815
70°	6289	7047	6176
75°	5674	6270	5525
80°	4756	5249	4534
85°	3638	3859	3417

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 11132 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.3	3.1
10°-20°	217.9	9.4
20°-30°	357.1	15.3
30°-40°	451.7	19.4
40°-50°	441.3	18.9
50°-60°	362.5	15.6
60°-70°	255.7	11.0
70°-80°	136.3	5.9
80°-90°	33.2	1.4
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°	648.2	27.8
0°-40°	1099.9	47.2
0°-60°	1903.7	81.7
0°-90°	2328.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2328.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	772	769	763	771	769	73
15°	740	744	760	795	804	209
25°	677	697	762	854	886	312
35°	585	626	748	834	822	366
45°	477	531	653	589	559	368
55°	357	410	441	396	381	319
65°	238	272	272	248	239	235
75°	122	137	135	122	119	129
85°	26	29	28	26	25	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	770.0	770.0	770.0	770.0	770.0
2.5°	774.8	772.4	764.4	771.6	769.2
5°	772.4	769.2	762.8	770.8	769.2
7.5°	767.6	766.0	761.2	773.2	772.4
10°	760.4	759.6	760.4	778.0	779.6
12.5°	752.5	753.3	760.4	785.1	790.7
15°	740.5	744.5	760.4	794.7	804.2
17.5°	727.8	734.2	760.4	807.4	821.8
20°	711.9	723.0	761.2	821.0	842.5
22.5°	695.9	709.5	761.2	839.3	865.6
25°	676.8	696.7	762.0	854.4	886.3
27.5°	656.1	680.0	762.8	866.4	898.2
30°	635.4	664.1	760.4	871.1	898.2
32.5°	610.7	645.8	755.7	863.2	871.1
35°	585.3	625.9	747.7	834.5	821.8
37.5°	561.4	604.4	737.4	781.9	751.7
40°	532.7	581.3	717.4	715.1	680.0
42.5°	505.6	556.6	692.0	647.4	618.7
45°	477.0	531.1	652.9	589.2	559.0
47.5°	446.7	503.2	603.6	534.3	512.8
50°	418.0	474.6	546.2	484.1	465.0
52.5°	387.0	444.3	491.3	439.5	422.8
55°	356.7	410.1	441.1	396.5	381.4
57.5°	326.5	376.6	395.0	355.9	344.0
60°	296.2	341.6	352.0	318.5	305.8
62.5°	266.8	309.0	312.1	282.7	271.5
65°	238.1	272.3	272.3	248.4	238.9
67.5°	207.8	237.3	235.7	213.4	207.8
70°	178.4	203.1	199.9	181.6	175.2
72.5°	150.5	168.8	166.4	152.1	144.9
75°	121.8	137.0	134.6	121.8	118.6
77.5°	94.8	105.1	102.7	94.0	91.6
80°	68.5	76.4	75.6	69.3	65.3
82.5°	46.2	50.2	49.4	45.4	43.0
85°	26.3	28.7	27.9	25.5	24.7
87.5°	10.4	11.9	12.7	11.9	11.1
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	19.38	20.98	19.74	21.30	21.61	19.11	20.71	19.47	21.03	21.34
	3H	20.95	22.40	21.33	22.72	23.08	20.62	22.07	21.00	22.39	22.76
	4H	21.50	22.86	21.90	23.21	23.59	21.16	22.52	21.56	22.86	23.24
	6H	21.87	23.12	22.28	23.49	23.88	21.51	22.77	21.93	23.14	23.53
	8H	21.96	23.17	22.39	23.56	23.95	21.61	22.81	22.03	23.20	23.60
	12H	22.02	23.17	22.45	23.55	23.98	21.66	22.81	22.09	23.19	23.62
4H	2H	20.02	21.38	20.42	21.73	22.10	19.80	21.16	20.20	21.51	21.89
	3H	21.83	22.96	22.24	23.36	23.76	21.52	22.66	21.93	23.05	23.45
	4H	22.51	23.54	22.95	23.95	24.39	22.16	23.18	22.59	23.60	24.03
	6H	22.99	23.89	23.45	24.33	24.79	22.62	23.51	23.07	23.95	24.41
	8H	23.13	23.96	23.59	24.41	24.87	22.74	23.58	23.21	24.02	24.49
	12H	23.21	23.96	23.69	24.44	24.91	22.82	23.57	23.31	24.05	24.52
8H	4H	22.78	23.61	23.24	24.06	24.52	22.47	23.30	22.93	23.74	24.21
	6H	23.37	24.06	23.86	24.55	25.03	23.03	23.72	23.52	24.21	24.68
	8H	23.56	24.19	24.07	24.69	25.18	23.21	23.83	23.72	24.33	24.82
	12H	23.70	24.25	24.21	24.75	25.31	23.33	23.88	23.84	24.38	24.94
12H	4H	22.80	23.54	23.28	24.02	24.49	22.49	23.24	22.97	23.72	24.19
	6H	23.40	24.02	23.91	24.53	25.02	23.07	23.69	23.58	24.20	24.69
	8H	23.65	24.20	24.15	24.69	25.25	23.30	23.85	23.81	24.34	24.90