

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: P1055814

Luminaire Tested: S123R3DR-H775D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055814  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H775D940-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

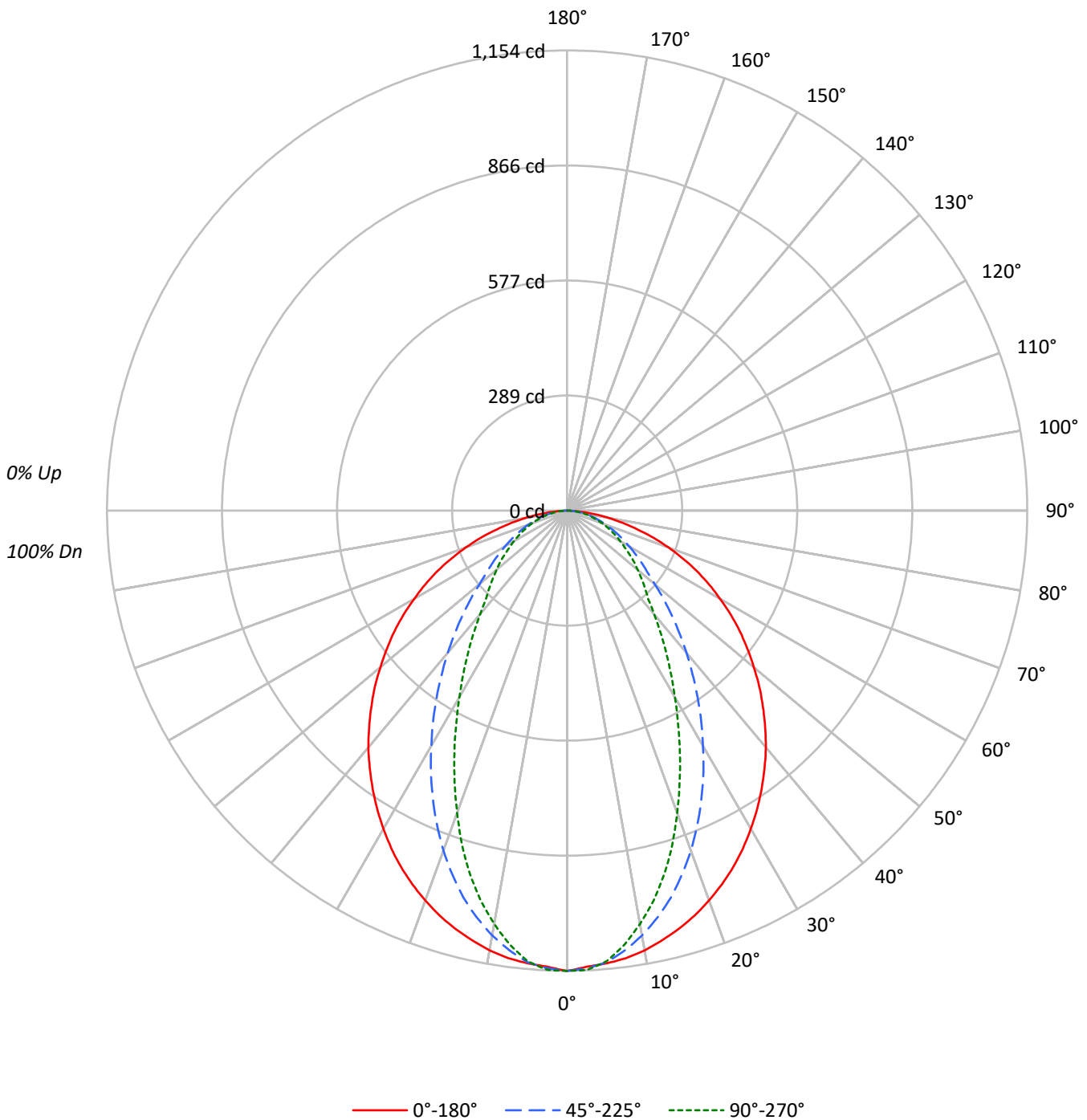
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2024.8 lumens  
Efficiency: N/A  
Efficacy: 85.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
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<sub>in</sub>): 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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88					86				
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76					74				
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67					65				
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59					57				
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52					50				
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47					45				
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42					40				
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39					37				
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35					34				
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33					31				

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

	0°	45°	90°
0°	13919	13919	13919
5°	13794	13763	13731
10°	13711	13246	12886
15°	13548	12545	11769
20°	13350	11643	10348
25°	13118	10602	8902
30°	12827	9485	7526
35°	12519	8388	6355
40°	12204	7325	5342
45°	11838	6315	4711
50°	11468	5377	4325
55°	11126	4792	3994
60°	10660	4331	3728
65°	10224	3965	3498
70°	9528	3652	3289
75°	8529	3377	3098
80°	7311	3117	2874
85°	5132	2863	2753

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11838 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.0	5.3
10°-20°	283.1	14.0
20°-30°	373.0	18.4
30°-40°	378.6	18.7
40°-50°	329.0	16.3
50°-60°	257.8	12.7
60°-70°	175.2	8.7
70°-80°	94.9	4.7
80°-90°	26.1	1.3
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°	763.1	37.7
0°-40°	1141.7	56.4
0°-60°	1728.6	85.4
0°-90°	2024.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2024.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1154	1154	1154	1154	1154	
5°	1140	1154	1137	1127	1135	108
15°	1085	1070	1005	956	943	306
25°	986	926	797	698	669	454
35°	851	750	570	461	432	532
45°	694	557	370	286	276	536
55°	529	368	228	194	190	472
65°	358	199	139	124	123	354
75°	183	92	72	67	66	195
85°	37	22	21	19	20	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1154.5	1154.5	1154.5	1154.5	1154.5
2.5°	1145.0	1159.7	1148.5	1149.3	1152.8
5°	1139.8	1153.6	1137.2	1126.9	1134.6
7.5°	1132.1	1142.4	1112.2	1095.8	1098.4
10°	1120.0	1123.4	1082.0	1056.1	1052.6
12.5°	1103.6	1097.5	1045.7	1007.7	1001.7
15°	1085.4	1069.9	1005.1	955.9	942.9
17.5°	1064.7	1038.8	957.6	897.2	877.3
20°	1040.5	1004.3	907.5	830.7	806.5
22.5°	1014.6	968.0	853.1	762.5	737.4
25°	986.1	926.5	797.0	697.7	669.2
27.5°	955.0	885.1	740.0	633.8	601.9
30°	921.4	841.9	681.3	571.6	540.6
32.5°	886.8	796.2	625.2	513.8	483.6
35°	850.6	749.5	569.9	461.1	431.8
37.5°	813.4	702.0	516.4	411.0	383.4
40°	775.4	653.7	465.4	364.4	339.4
42.5°	734.8	605.3	416.2	320.4	301.4
45°	694.3	557.0	370.4	285.8	276.3
47.5°	653.7	507.7	327.3	261.6	253.0
50°	611.4	460.2	286.7	239.2	230.6
52.5°	569.9	413.6	253.0	217.6	211.6
55°	529.3	367.9	228.0	194.3	190.0
57.5°	487.0	323.0	202.9	176.2	171.0
60°	442.1	279.8	179.6	157.2	154.6
62.5°	401.5	239.2	158.9	140.8	138.2
65°	358.4	198.6	139.0	124.3	122.6
67.5°	314.3	164.9	120.9	108.8	107.9
70°	270.3	139.0	103.6	94.1	93.3
72.5°	227.1	114.8	87.2	81.2	79.4
75°	183.1	91.5	72.5	67.4	66.5
77.5°	143.3	70.8	57.9	54.4	53.5
80°	105.3	52.7	44.9	42.3	41.4
82.5°	69.1	36.3	31.9	30.2	30.2
85°	37.1	22.5	20.7	19.0	19.9
87.5°	13.0	9.5	9.5	8.6	9.5
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	19.71	21.20	20.07	21.51	21.83	14.86	16.35	15.22	16.66	16.98
	3H	21.59	22.93	21.97	23.26	23.62	16.48	17.82	16.86	18.15	18.51
	4H	22.35	23.61	22.75	23.95	24.33	17.12	18.38	17.52	18.73	19.11
	6H	22.91	24.07	23.33	24.44	24.83	17.61	18.77	18.02	19.14	19.53
	8H	23.09	24.19	23.51	24.58	24.98	17.78	18.88	18.21	19.27	19.68
	12H	23.18	24.24	23.61	24.62	25.05	17.90	18.96	18.34	19.34	19.77
4H	2H	19.75	21.01	20.15	21.36	21.74	15.59	16.84	15.99	17.19	17.57
	3H	21.77	22.81	22.18	23.21	23.62	17.41	18.45	17.82	18.85	19.25
	4H	22.59	23.53	23.02	23.94	24.38	18.15	19.09	18.59	19.51	19.95
	6H	23.27	24.09	23.73	24.53	24.99	18.76	19.58	19.22	20.02	20.48
	8H	23.50	24.26	23.96	24.71	25.18	18.97	19.74	19.44	20.18	20.65
	12H	23.65	24.33	24.14	24.81	25.28	19.14	19.83	19.63	20.30	20.78
8H	4H	22.61	23.38	23.08	23.82	24.29	18.54	19.30	19.00	19.74	20.21
	6H	23.34	23.97	23.84	24.46	24.94	19.26	19.89	19.76	20.39	20.86
	8H	23.61	24.18	24.12	24.69	25.17	19.55	20.12	20.07	20.63	21.12
	12H	23.82	24.32	24.33	24.81	25.38	19.80	20.30	20.31	20.79	21.35
12H	4H	22.60	23.28	23.08	23.76	24.23	18.59	19.27	19.07	19.75	20.22
	6H	23.32	23.89	23.84	24.40	24.89	19.35	19.91	19.86	20.42	20.91
	8H	23.63	24.13	24.14	24.62	25.19	19.69	20.19	20.20	20.68	21.25