

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055725

Luminaire Tested: S123R3DR-H1165D930-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055725  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1165D930-X4F0-XX-UDD-FLL-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

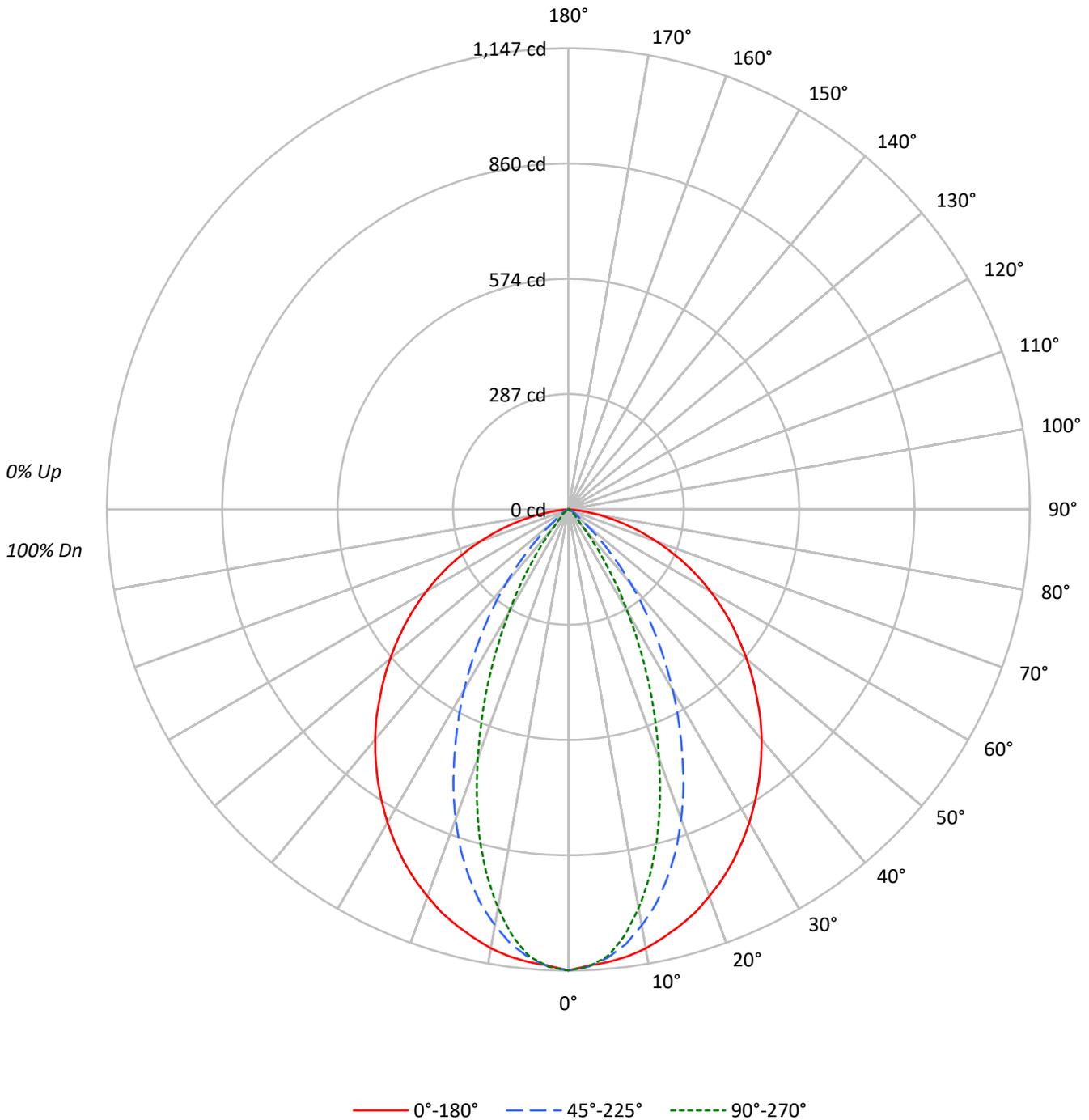
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1342.0 lumens  
Efficiency: N/A  
Efficacy: 36.7 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.6  
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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90					90			
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73					73			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65					65			
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54					54			
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

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

	0°	45°	90°
0°	13824	13824	13824
5°	13676	13545	13503
10°	13571	12858	12320
15°	13377	11848	10614
20°	13139	10514	8454
25°	12864	8908	6234
30°	12518	7220	4090
35°	12150	5497	2240
40°	11757	3801	768
45°	11296	2210	447
50°	10843	870	268
55°	10375	551	124
60°	9838	345	58
65°	9160	168	34
70°	8217	85	42
75°	6983	56	56
80°	5200	83	0
85°	1978	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11296 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.1	7.8
10°-20°	266.8	19.9
20°-30°	318.2	23.7
30°-40°	269.9	20.1
40°-50°	183.5	13.7
50°-60°	113.7	8.5
60°-70°	57.6	4.3
70°-80°	23.5	1.8
80°-90°	3.6	0.3
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°	690.1	51.4
0°-40°	960.1	71.5
0°-60°	1257.3	93.7
0°-90°	1342.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1342.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1147	1147	1147	1147	1147	
5°	1130	1141	1119	1111	1116	107
15°	1072	1044	949	874	850	302
25°	967	877	670	517	469	445
35°	826	662	374	201	152	516
45°	662	434	130	32	26	512
55°	494	219	26	10	6	441
65°	321	54	6	1	1	317
75°	150	10	1	1	1	159
85°	14	0	0	1	0	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1146.6	1146.6	1146.6	1146.6	1146.6
2.5°	1135.9	1151.4	1138.3	1137.1	1138.3
5°	1130.0	1140.7	1119.2	1110.9	1115.7
7.5°	1121.6	1126.4	1090.7	1069.3	1069.3
10°	1108.5	1105.0	1050.3	1014.6	1006.3
12.5°	1090.7	1076.4	1005.1	949.2	933.7
15°	1071.7	1044.3	949.2	874.2	850.4
17.5°	1050.3	1008.6	888.5	791.0	756.5
20°	1024.1	968.2	819.5	700.6	658.9
22.5°	996.7	924.2	747.0	607.8	561.4
25°	967.0	876.6	669.6	517.4	468.6
27.5°	933.7	826.6	593.5	430.6	377.0
30°	899.2	774.3	518.6	347.3	293.8
32.5°	862.3	719.6	443.7	271.2	221.2
35°	825.5	662.5	373.5	201.0	152.2
37.5°	786.2	605.4	305.7	139.2	96.3
40°	747.0	549.5	241.5	88.0	48.8
42.5°	706.5	491.2	183.2	44.0	33.3
45°	662.5	434.1	129.6	32.1	26.2
47.5°	620.9	379.4	85.6	26.2	20.2
50°	578.1	324.7	46.4	19.0	14.3
52.5°	535.2	272.4	33.3	14.3	9.5
55°	493.6	218.9	26.2	9.5	5.9
57.5°	450.8	172.5	20.2	5.9	3.6
60°	408.0	127.3	14.3	3.6	2.4
62.5°	365.2	88.0	9.5	2.4	1.2
65°	321.1	53.5	5.9	1.2	1.2
67.5°	275.9	36.9	3.6	1.2	1.2
70°	233.1	26.2	2.4	1.2	1.2
72.5°	190.3	16.7	1.2	1.2	0.0
75°	149.9	9.5	1.2	1.2	1.2
77.5°	110.6	3.6	1.2	1.2	0.0
80°	74.9	1.2	1.2	1.2	0.0
82.5°	41.6	0.0	1.2	1.2	0.0
85°	14.3	0.0	0.0	1.2	0.0
87.5°	0.0	0.0	0.0	1.2	0.0
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	18.17	19.45	18.54	19.77	20.08	0.00	0.00	0.00	0.00	0.00
	3H	20.12	21.25	20.50	21.58	21.95	0.00	0.00	0.00	0.00	0.00
	4H	20.95	22.00	21.35	22.35	22.74	0.00	0.00	0.00	0.00	0.00
	6H	21.50	22.47	21.91	22.84	23.23	0.00	0.00	0.00	0.00	0.00
	8H	21.62	22.54	22.06	22.93	23.34	0.00	0.00	0.00	0.00	0.00
	12H	21.65	22.53	22.08	22.91	23.34	0.00	0.00	0.00	0.00	0.00
4H	2H	17.94	18.99	18.34	19.34	19.73	0.00	0.00	0.00	0.00	0.00
	3H	19.89	20.75	20.30	21.16	21.56	0.00	0.00	0.00	0.00	0.00
	4H	20.70	21.47	21.14	21.89	22.34	0.00	0.00	0.00	0.00	0.00
	6H	21.30	21.97	21.77	22.41	22.88	0.00	0.00	0.00	0.00	0.00
	8H	21.46	22.07	21.93	22.52	22.99	0.00	0.00	0.00	0.00	0.00
	12H	21.50	22.05	21.99	22.53	23.01	0.00	0.00	0.00	0.00	0.00
8H	4H	20.56	21.18	21.03	21.63	22.10	0.00	0.00	0.00	0.00	0.00
	6H	21.14	21.64	21.65	22.14	22.62	0.00	0.00	0.00	0.00	0.00
	8H	21.29	21.74	21.82	22.26	22.75	0.00	0.00	0.00	0.00	0.00
	12H	21.35	21.74	21.87	22.24	22.81	0.00	0.00	0.00	0.00	0.00
12H	4H	20.51	21.06	21.00	21.54	22.02	0.00	0.00	0.00	0.00	0.00
	6H	21.08	21.53	21.60	22.05	22.54	0.00	0.00	0.00	0.00	0.00
	8H	21.25	21.64	21.76	22.14	22.71	0.00	0.00	0.00	0.00	0.00