

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: P1055803

Luminaire Tested: S123R3DR-H775D927-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055803
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-H775D927-X4F0-XX-UDD-FLL-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

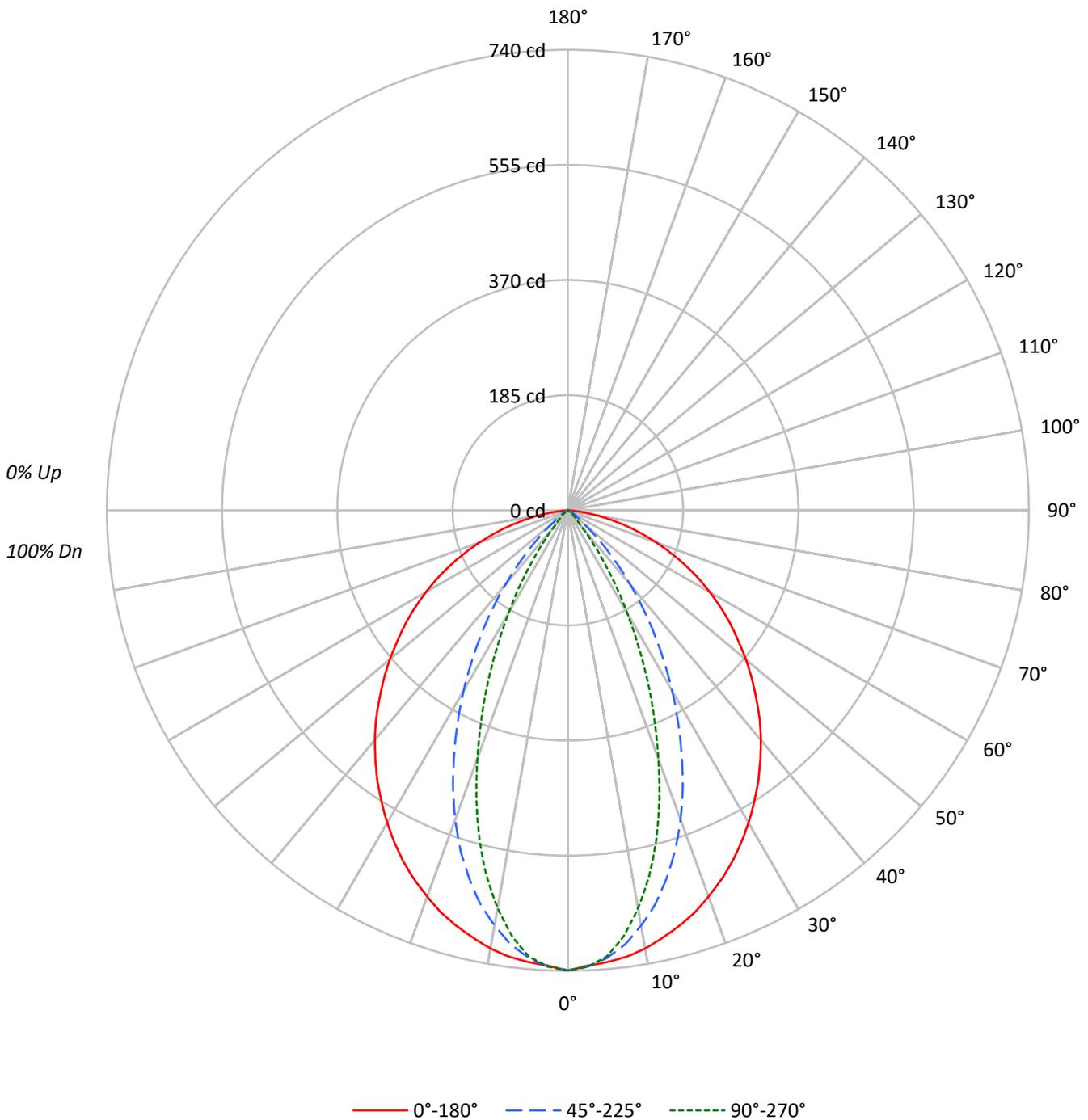
Lumens per Lamp: N/A
Luminaire Lumens: 865.5 lumens
Efficiency: N/A
Efficacy: 36.4 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90				
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81				
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73				
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65				
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59				
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54				
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50				
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46				
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43				
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8916	8916	8916
5°	8820	8737	8709
10°	8753	8293	7945
15°	8627	7641	6846
20°	8474	6781	5453
25°	8297	5745	4020
30°	8073	4657	2638
35°	7836	3546	1445
40°	7583	2450	496
45°	7286	1425	288
50°	6992	561	173
55°	6693	355	80
60°	6344	222	36
65°	5908	108	23
70°	5302	53	28
75°	4505	37	37
80°	3353	56	0
85°	1273	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7286 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.8	7.8
10°-20°	172.1	19.9
20°-30°	205.2	23.7
30°-40°	174.1	20.1
40°-50°	118.3	13.7
50°-60°	73.3	8.5
60°-70°	37.2	4.3
70°-80°	15.2	1.8
80°-90°	2.3	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°	445.1	51.4
0°-40°	619.2	71.5
0°-60°	810.9	93.7
0°-90°	865.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	865.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	740	740	740	740	740	
5°	729	736	722	716	720	69
15°	691	674	612	564	548	195
25°	624	565	432	334	302	287
35°	532	427	241	130	98	333
45°	427	280	84	21	17	330
55°	318	141	17	6	4	284
65°	207	34	4	1	1	205
75°	97	6	1	1	1	103
85°	9	0	0	1	0	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	739.5	739.5	739.5	739.5	739.5
2.5°	732.6	742.6	734.1	733.4	734.1
5°	728.8	735.7	721.9	716.5	719.6
7.5°	723.4	726.5	703.5	689.6	689.6
10°	715.0	712.7	677.4	654.4	649.0
12.5°	703.5	694.2	648.2	612.2	602.2
15°	691.2	673.5	612.2	563.8	548.5
17.5°	677.4	650.5	573.0	510.1	487.9
20°	660.5	624.4	528.5	451.8	425.0
22.5°	642.8	596.1	481.8	392.0	362.1
25°	623.7	565.4	431.9	333.7	302.2
27.5°	602.2	533.2	382.8	277.7	243.2
30°	579.9	499.4	334.5	224.0	189.5
32.5°	556.2	464.1	286.1	174.9	142.7
35°	532.4	427.3	240.9	129.6	98.2
37.5°	507.1	390.5	197.2	89.8	62.1
40°	481.8	354.4	155.7	56.8	31.5
42.5°	455.7	316.8	118.1	28.4	21.5
45°	427.3	280.0	83.6	20.7	16.9
47.5°	400.4	244.7	55.2	16.9	13.0
50°	372.8	209.4	29.9	12.3	9.2
52.5°	345.2	175.7	21.5	9.2	6.1
55°	318.4	141.2	16.9	6.1	3.8
57.5°	290.7	111.2	13.0	3.8	2.3
60°	263.1	82.1	9.2	2.3	1.5
62.5°	235.5	56.8	6.1	1.5	0.8
65°	207.1	34.5	3.8	0.8	0.8
67.5°	178.0	23.8	2.3	0.8	0.8
70°	150.4	16.9	1.5	0.8	0.8
72.5°	122.7	10.7	0.8	0.8	0.0
75°	96.7	6.1	0.8	0.8	0.8
77.5°	71.3	2.3	0.8	0.8	0.0
80°	48.3	0.8	0.8	0.8	0.0
82.5°	26.8	0.0	0.8	0.8	0.0
85°	9.2	0.0	0.0	0.8	0.0
87.5°	0.0	0.0	0.0	0.8	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	16.65	17.93	17.01	18.24	18.56	0.00	0.00	0.00	0.00	0.00
	3H	18.59	19.73	18.97	20.06	20.42	0.00	0.00	0.00	0.00	0.00
	4H	19.42	20.48	19.82	20.83	21.21	0.00	0.00	0.00	0.00	0.00
	6H	19.97	20.94	20.39	21.31	21.71	0.00	0.00	0.00	0.00	0.00
	8H	20.10	21.02	20.53	21.41	21.81	0.00	0.00	0.00	0.00	0.00
	12H	20.12	21.00	20.56	21.38	21.81	0.00	0.00	0.00	0.00	0.00
4H	2H	16.41	17.47	16.81	17.82	18.20	0.00	0.00	0.00	0.00	0.00
	3H	18.37	19.23	18.78	19.63	20.04	0.00	0.00	0.00	0.00	0.00
	4H	19.18	19.95	19.61	20.37	20.81	0.00	0.00	0.00	0.00	0.00
	6H	19.78	20.44	20.24	20.89	21.36	0.00	0.00	0.00	0.00	0.00
	8H	19.93	20.55	20.40	21.00	21.47	0.00	0.00	0.00	0.00	0.00
	12H	19.98	20.52	20.46	21.01	21.48	0.00	0.00	0.00	0.00	0.00
8H	4H	19.04	19.65	19.51	20.10	20.57	0.00	0.00	0.00	0.00	0.00
	6H	19.62	20.12	20.12	20.62	21.10	0.00	0.00	0.00	0.00	0.00
	8H	19.77	20.22	20.29	20.73	21.23	0.00	0.00	0.00	0.00	0.00
	12H	19.82	20.22	20.34	20.72	21.29	0.00	0.00	0.00	0.00	0.00
12H	4H	18.99	19.53	19.48	20.02	20.49	0.00	0.00	0.00	0.00	0.00
	6H	19.55	20.00	20.08	20.52	21.01	0.00	0.00	0.00	0.00	0.00
	8H	19.72	20.12	20.24	20.61	21.19	0.00	0.00	0.00	0.00	0.00