

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: P1055793

Luminaire Tested: S123R3DR-H775D830-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055793
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-H775D830-X4F0-XX-UDD-FLL-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

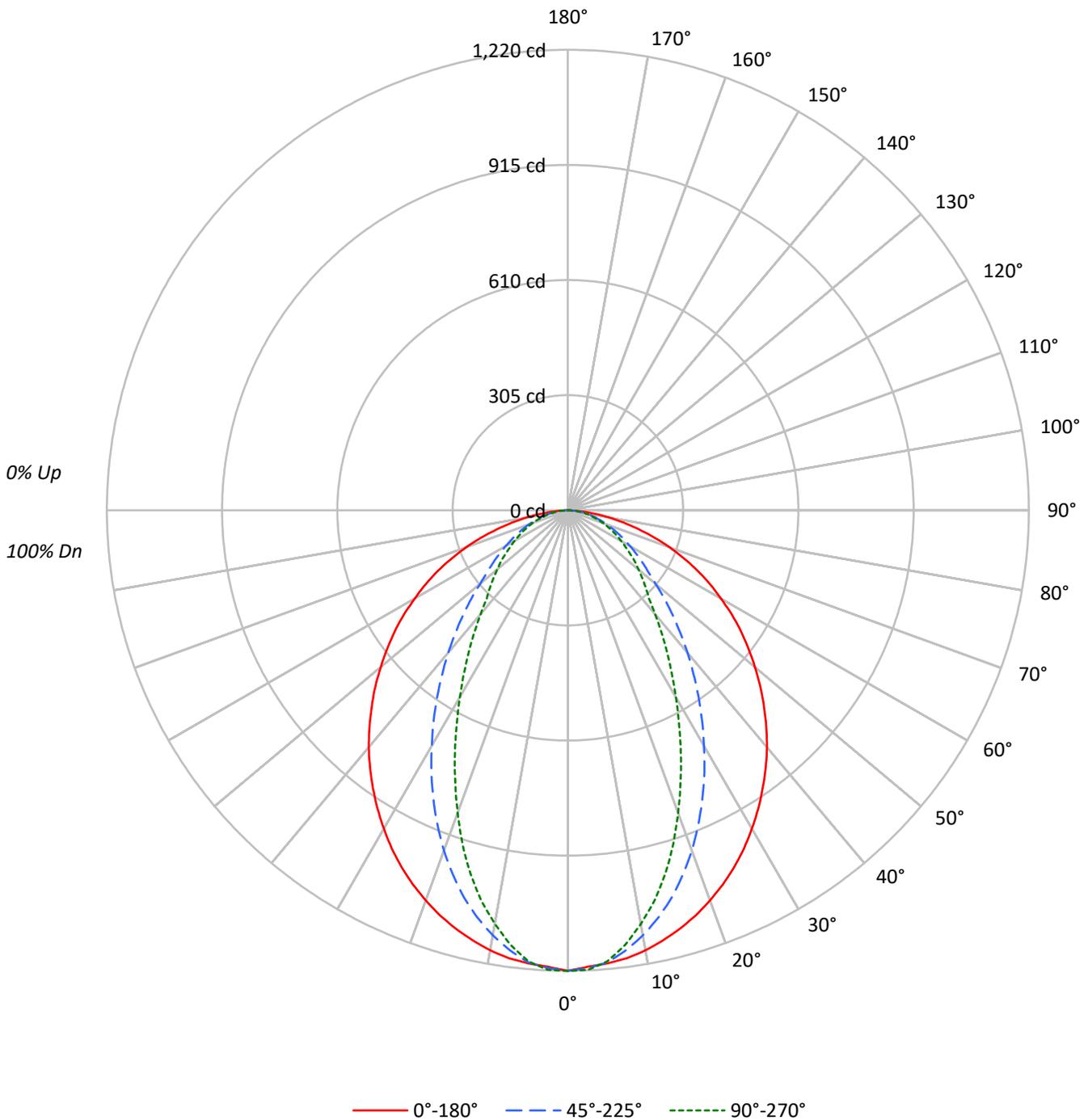
Lumens per Lamp: N/A
Luminaire Lumens: 2140.2 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
Input Voltage (V): 120
Input Current (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	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												86																
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74												74																
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65												65																
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57												57																
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50												50																
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45												45																
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40												40																
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37												37																
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34												34																
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31												31																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14712	14712	14712
5°	14581	14548	14514
10°	14493	14000	13621
15°	14320	13261	12441
20°	14111	12308	10938
25°	13865	11206	9410
30°	13558	10025	7955
35°	13232	8866	6717
40°	12899	7743	5645
45°	12512	6677	4980
50°	12120	5683	4571
55°	11761	5066	4221
60°	11268	4577	3940
65°	10806	4191	3697
70°	10071	3860	3476
75°	9014	3573	3275
80°	7735	3298	3041
85°	5423	3029	2905

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12512 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.1	5.3
10°-20°	299.3	14.0
20°-30°	394.3	18.4
30°-40°	400.1	18.7
40°-50°	347.8	16.3
50°-60°	272.5	12.7
60°-70°	185.1	8.7
70°-80°	100.3	4.7
80°-90°	27.6	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°	806.7	37.7
0°-40°	1206.8	56.4
0°-60°	1827.1	85.4
0°-90°	2140.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2140.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1220	1220	1220	1220	1220	
5°	1205	1219	1202	1191	1199	114
15°	1147	1131	1062	1010	997	323
25°	1042	979	842	738	707	480
35°	899	792	602	487	456	562
45°	734	589	392	302	292	566
55°	560	389	241	205	201	499
65°	379	210	147	131	130	374
75°	194	97	77	71	70	207
85°	39	24	22	20	21	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1220.3	1220.3	1220.3	1220.3	1220.3
2.5°	1210.3	1225.8	1213.9	1214.8	1218.5
5°	1204.8	1219.4	1202.1	1191.1	1199.3
7.5°	1196.6	1207.5	1175.6	1158.3	1161.0
10°	1183.8	1187.5	1143.6	1116.3	1112.6
12.5°	1166.5	1160.1	1105.3	1065.2	1058.8
15°	1147.3	1130.9	1062.4	1010.4	996.7
17.5°	1125.4	1098.0	1012.2	948.3	927.3
20°	1099.8	1061.5	959.3	878.0	852.5
22.5°	1072.5	1023.2	901.8	805.9	779.5
25°	1042.3	979.4	842.4	737.5	707.4
27.5°	1009.5	935.5	782.2	669.9	636.2
30°	973.9	889.9	720.1	604.2	571.4
32.5°	937.4	841.5	660.8	543.1	511.1
35°	899.0	792.2	602.4	487.4	456.4
37.5°	859.8	742.0	545.8	434.5	405.3
40°	819.6	690.9	492.0	385.2	358.7
42.5°	776.7	639.8	439.9	338.6	318.5
45°	733.8	588.7	391.6	302.1	292.1
47.5°	690.9	536.7	345.9	276.6	267.4
50°	646.2	486.5	303.0	252.8	243.7
52.5°	602.4	437.2	267.4	230.0	223.6
55°	559.5	388.8	241.0	205.4	200.8
57.5°	514.8	341.4	214.5	186.2	180.7
60°	467.3	295.7	189.8	166.1	163.4
62.5°	424.4	252.8	167.9	148.8	146.0
65°	378.8	209.9	146.9	131.4	129.6
67.5°	332.2	174.3	127.8	115.0	114.1
70°	285.7	146.9	109.5	99.5	98.6
72.5°	240.0	121.4	92.2	85.8	84.0
75°	193.5	96.7	76.7	71.2	70.3
77.5°	151.5	74.8	61.2	57.5	56.6
80°	111.4	55.7	47.5	44.7	43.8
82.5°	73.0	38.3	33.8	31.9	31.9
85°	39.2	23.7	21.9	20.1	21.0
87.5°	13.7	10.0	10.0	9.1	10.0
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	19.90	21.39	20.27	21.71	22.02	15.05	16.54	15.41	16.85	17.17
	3H	21.79	23.13	22.16	23.45	23.82	16.68	18.02	17.05	18.34	18.71
	4H	22.54	23.80	22.94	24.15	24.53	17.31	18.57	17.71	18.92	19.30
	6H	23.11	24.27	23.52	24.63	25.03	17.80	18.96	18.22	19.33	19.72
	8H	23.28	24.38	23.71	24.77	25.18	17.97	19.08	18.40	19.47	19.87
	12H	23.38	24.43	23.81	24.82	25.25	18.10	19.15	18.53	19.54	19.97
4H	2H	19.95	21.20	20.35	21.55	21.93	15.78	17.03	16.18	17.38	17.76
	3H	21.96	23.01	22.37	23.41	23.81	17.60	18.64	18.01	19.04	19.44
	4H	22.78	23.72	23.21	24.14	24.57	18.34	19.28	18.78	19.70	20.14
	6H	23.46	24.28	23.92	24.72	25.18	18.95	19.77	19.41	20.21	20.67
	8H	23.69	24.46	24.16	24.90	25.37	19.17	19.93	19.63	20.38	20.84
	12H	23.84	24.53	24.33	25.01	25.48	19.34	20.02	19.82	20.50	20.97
8H	4H	22.80	23.57	23.27	24.01	24.48	18.73	19.49	19.19	19.94	20.40
	6H	23.53	24.16	24.03	24.66	25.13	19.46	20.09	19.95	20.58	21.06
	8H	23.80	24.37	24.32	24.88	25.37	19.74	20.31	20.26	20.82	21.31
	12H	24.01	24.51	24.52	25.00	25.57	19.99	20.49	20.50	20.98	21.55
12H	4H	22.79	23.47	23.27	23.95	24.42	18.78	19.46	19.27	19.94	20.41
	6H	23.52	24.08	24.03	24.59	25.08	19.54	20.11	20.05	20.62	21.10
	8H	23.82	24.32	24.33	24.82	25.38	19.89	20.38	20.40	20.88	21.44