

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: P735863

Luminaire Tested: S122DRP-S290D835-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735863
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)
Test Lab: INNOVATION CENTER
Issue Date: 1/24/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S290D835-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

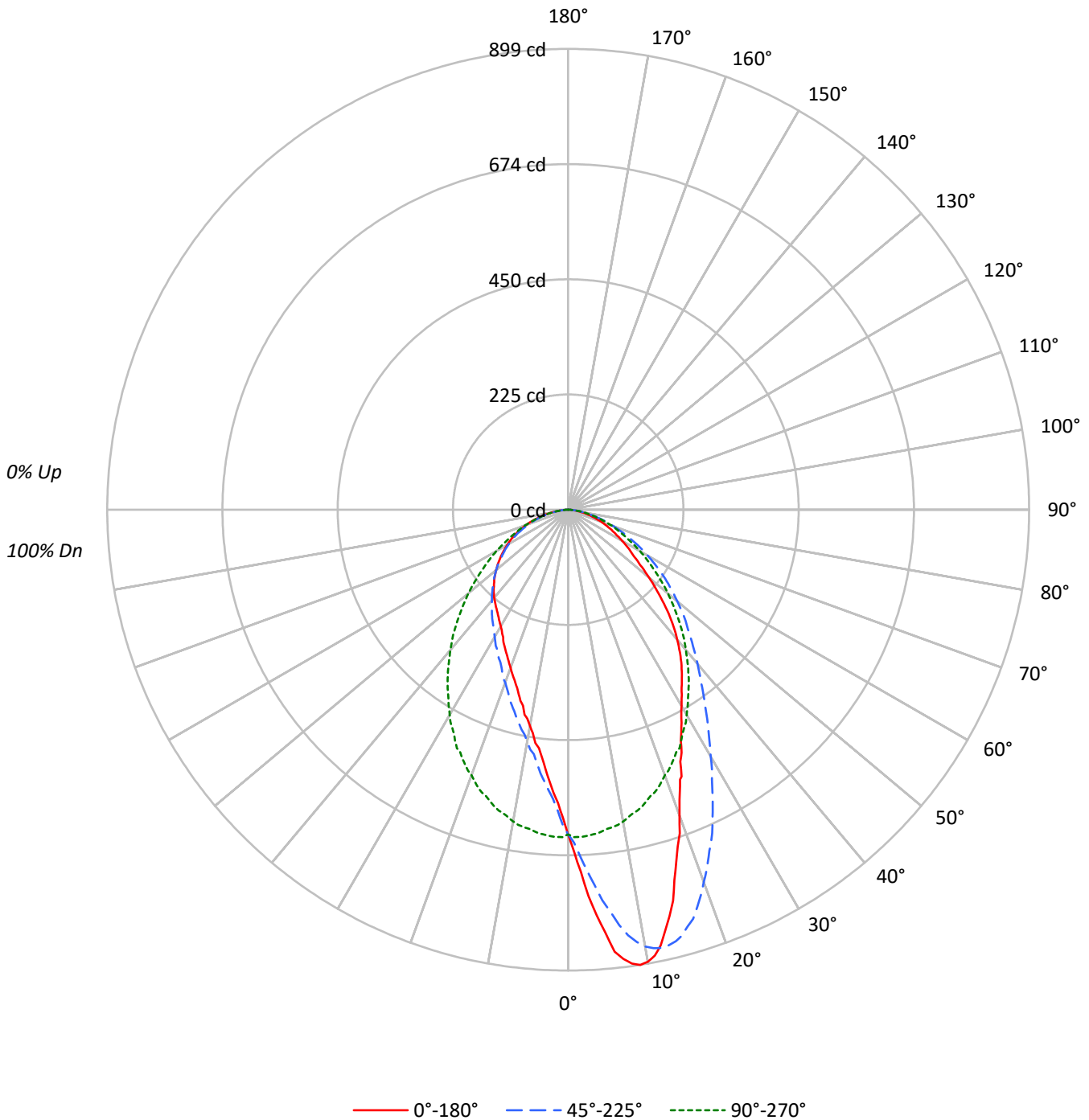
Lumens per Lamp: N/A
Luminaire Lumens: 1288.5 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 12.5
Input Voltage (V): 120
Input Current (A_{in}): 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

TEST NUMBER: P735863

CATALOG NUMBER: S122DRP-S290D835-X4F0-XX-UDD-W-W

Luminous Intensity Polar Plot





TEST NUMBER: P735863

CATALOG NUMBER: S122DRP-S290D835-X4F0-XX-UDD-W-W

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				100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86				86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74				74
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64				64
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58	56				56
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51	49				49
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44				44
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41	39				39
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35				35
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34	32				32
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	12173	12173	12173	12173	12173
5°	15964	14755	12237	10263	9792
10°	17474	16889	12054	8970	8359
15°	15720	17105	11727	8099	7414
20°	12972	15820	11281	7345	6721
25°	11086	14114	10884	6793	6231
30°	9806	12327	10258	6365	5835
35°	9069	10918	9621	6066	5669
40°	8300	9851	8955	5811	5636
45°	7312	8992	8283	5632	5562
50°	6157	8292	7589	5478	5493
55°	5177	7627	6856	5295	5395
60°	4667	6893	6224	5136	5286
65°	4234	6058	5544	4889	5185
70°	3816	5232	4990	4524	4917
75°	3327	4426	4270	4107	4493
80°	2789	3465	3465	3564	3752
85°	2117	2492	2602	2779	2691

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 13203 cd/sqm



TEST NUMBER: P735863

CATALOG NUMBER: S122DRP-S290D835-X4F0-XX-UDD-W-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.3	4.8
10°-20°	171.1	13.3
20°-30°	224.3	17.4
30°-40°	237.1	18.4
40°-50°	220.1	17.1
50°-60°	176.2	13.7
60°-70°	120.5	9.4
70°-80°	62.2	4.8
80°-90°	14.8	1.1
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°	457.7	35.5
0°-40°	694.8	53.9
0°-60°	1091.1	84.7
0°-90°	1288.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1288.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	633	633	633	633	633	
5°	827	765	634	532	508	82
15°	790	860	589	407	373	217
25°	523	666	513	320	294	241
35°	386	465	410	258	242	241
45°	269	331	305	207	205	207
55°	154	228	205	158	161	142
65°	93	133	122	108	114	92
75°	45	60	58	55	60	48
85°	10	11	12	13	12	12
90°	0	0	0	0	0	

TEST NUMBER: P735863

CATALOG NUMBER: S122DRP-S290D835-X4F0-XX-UDD-W-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	633.3	633.3	633.3	633.3	633.3	633.3	633.3	633.3	633.3
1°	668.1	664.6	649.4	650.3	638.9	626.3	614.6	607.2	601.1
2°	707.3	700.3	676.4	664.6	638.9	612.0	587.6	581.1	572.8
3°	754.7	738.2	705.1	677.2	638.1	598.9	565.4	553.6	552.3
4°	793.0	778.2	734.3	690.3	635.9	586.3	548.4	535.8	529.7
5°	827.4	817.8	764.7	706.8	634.2	574.1	531.9	514.5	507.5
6°	867.0	847.4	789.1	723.4	631.1	562.3	517.1	496.2	486.6
7°	883.1	870.9	816.5	734.3	627.2	548.9	498.4	475.7	468.8
8°	894.4	889.7	838.3	752.1	625.5	536.2	481.8	467.9	459.6
9°	899.2	895.3	854.0	759.5	622.4	529.7	473.6	450.5	441.3
10°	895.3	897.1	865.3	770.8	617.6	516.2	459.6	439.6	428.3
11°	886.2	890.5	871.4	783.9	611.5	505.3	447.0	426.5	415.7
12°	868.8	878.3	874.0	793.0	605.9	495.7	438.3	418.7	409.1
13°	841.8	863.1	872.2	796.9	602.4	484.9	427.4	404.8	392.6
14°	817.4	839.6	867.5	805.6	596.3	472.7	417.4	394.8	384.3
15°	790.0	815.7	859.6	808.3	589.3	462.7	407.0	382.1	372.6
16°	751.7	786.1	845.3	811.3	581.1	451.4	397.4	373.9	361.3
17°	719.9	756.9	834.4	813.0	576.7	442.6	389.1	361.3	353.0
18°	690.7	732.5	814.8	811.7	569.7	432.6	376.9	352.1	344.3
19°	667.7	701.6	795.2	808.7	560.2	423.1	367.8	345.6	336.4
20°	634.2	673.3	773.4	807.4	551.5	414.4	359.1	336.4	328.6
21°	606.3	646.3	753.4	803.0	545.4	406.1	352.6	327.7	320.8
22.5°	569.7	605.0	719.9	794.8	531.9	392.2	338.2	319.5	309.9
23°	565.4	595.4	711.2	792.2	528.0	389.1	333.4	314.7	306.9
24°	538.0	569.7	690.7	783.9	517.9	379.5	325.6	309.0	299.9
25°	522.7	548.9	665.5	776.1	513.2	370.8	320.3	301.6	293.8
26°	501.4	531.4	642.9	764.7	502.7	363.0	312.1	295.1	287.7
27°	485.7	511.0	619.4	756.5	490.5	354.7	305.5	288.6	279.4
28°	470.5	494.9	596.7	743.0	481.8	345.6	300.8	282.9	274.2
29°	454.8	476.2	578.4	732.5	473.6	337.8	293.4	275.5	267.2
30°	441.8	461.4	555.4	718.6	462.2	328.6	286.8	270.3	262.9
32.5°	411.7	428.3	508.4	685.5	435.3	310.3	271.2	255.9	251.6
35°	386.5	397.4	465.3	648.5	410.0	290.7	258.5	243.7	241.6
37.5°	360.0	370.4	426.1	609.8	383.5	272.9	244.2	234.6	232.9
40°	330.8	344.7	392.6	571.5	356.9	255.5	231.6	224.2	224.6
42.5°	301.6	317.7	360.0	526.7	332.1	239.0	219.4	214.1	215.0
45°	269.0	289.4	330.8	485.7	304.7	223.3	207.2	204.6	204.6
47.5°	235.0	261.2	305.5	443.5	278.6	207.6	195.4	193.7	194.6
50°	205.9	229.4	277.3	402.6	253.8	193.3	183.2	182.8	183.7
52.5°	177.1	200.7	252.4	364.3	228.5	180.2	171.5	171.5	172.4
55°	154.5	172.8	227.6	324.3	204.6	165.0	158.0	159.3	161.0
57.5°	138.8	151.0	203.3	286.0	182.4	150.2	145.8	146.7	148.9
60°	121.4	131.0	179.3	250.7	161.9	135.8	133.6	135.4	137.5
62.5°	105.8	114.0	156.7	218.9	139.7	121.9	121.0	123.6	125.8
65°	93.1	98.8	133.2	186.7	121.9	107.9	107.5	111.4	114.0



TEST NUMBER: P735863

CATALOG NUMBER: S122DRP-S290D835-X4F0-XX-UDD-W-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	80.1	84.4	112.7	156.3	104.0	94.0	94.0	98.4	100.5
70°	67.9	71.4	93.1	128.8	88.8	80.1	80.5	85.7	87.5
72.5°	55.3	58.3	75.7	103.6	71.8	67.0	68.3	72.7	74.4
75°	44.8	47.0	59.6	81.8	57.5	53.5	55.3	59.2	60.5
77.5°	34.4	36.1	44.0	60.1	44.0	41.8	43.5	47.0	47.0
80°	25.2	25.7	31.3	42.2	31.3	30.0	32.2	33.9	33.9
82.5°	16.5	17.4	20.5	27.0	20.9	20.5	21.3	22.6	22.6
85°	9.6	10.0	11.3	14.8	11.8	11.8	12.6	12.6	12.2
87.5°	3.9	4.4	4.8	5.7	5.2	5.7	5.7	4.8	5.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P735863
 CATALOG NUMBER: S122DRP-S290D835-X4F0-XX-UDD-W-W

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	17.90	19.42	18.27	19.74	20.05	17.48	19.00	17.84	19.31	19.63
	3H	19.10	20.47	19.48	20.80	21.16	18.99	20.36	19.37	20.69	21.05
	4H	19.50	20.78	19.90	21.13	21.51	19.52	20.80	19.92	21.15	21.53
	6H	19.75	20.94	20.17	21.30	21.70	19.87	21.05	20.28	21.42	21.81
	8H	19.82	20.94	20.24	21.33	21.73	19.97	21.09	20.39	21.48	21.89
	12H	19.85	20.93	20.28	21.31	21.74	20.02	21.10	20.45	21.48	21.91
4H	2H	18.96	20.24	19.36	20.59	20.97	18.55	19.83	18.95	20.18	20.56
	3H	20.32	21.39	20.73	21.78	22.19	20.17	21.24	20.58	21.64	22.04
	4H	20.78	21.74	21.21	22.16	22.59	20.76	21.71	21.19	22.13	22.57
	6H	21.09	21.93	21.55	22.37	22.83	21.18	22.01	21.63	22.45	22.91
	8H	21.17	21.95	21.64	22.40	22.86	21.29	22.07	21.76	22.52	22.98
	12H	21.22	21.92	21.70	22.39	22.87	21.37	22.06	21.85	22.54	23.01
8H	4H	21.14	21.92	21.60	22.36	22.83	21.10	21.88	21.56	22.32	22.79
	6H	21.54	22.18	22.04	22.67	23.15	21.62	22.26	22.11	22.75	23.23
	8H	21.66	22.24	22.17	22.75	23.24	21.78	22.36	22.30	22.87	23.36
	12H	21.75	22.26	22.26	22.75	23.31	21.91	22.42	22.42	22.91	23.47
12H	4H	21.16	21.86	21.64	22.33	22.81	21.11	21.81	21.60	22.29	22.76
	6H	21.58	22.16	22.10	22.67	23.16	21.66	22.23	22.17	22.74	23.23
	8H	21.75	22.26	22.26	22.76	23.32	21.87	22.38	22.38	22.88	23.44