

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: P242382

Luminaire Tested: S122RDRP-S290D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242382  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-24)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDRP-S290D940-X4F0-XX-UDD-F-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

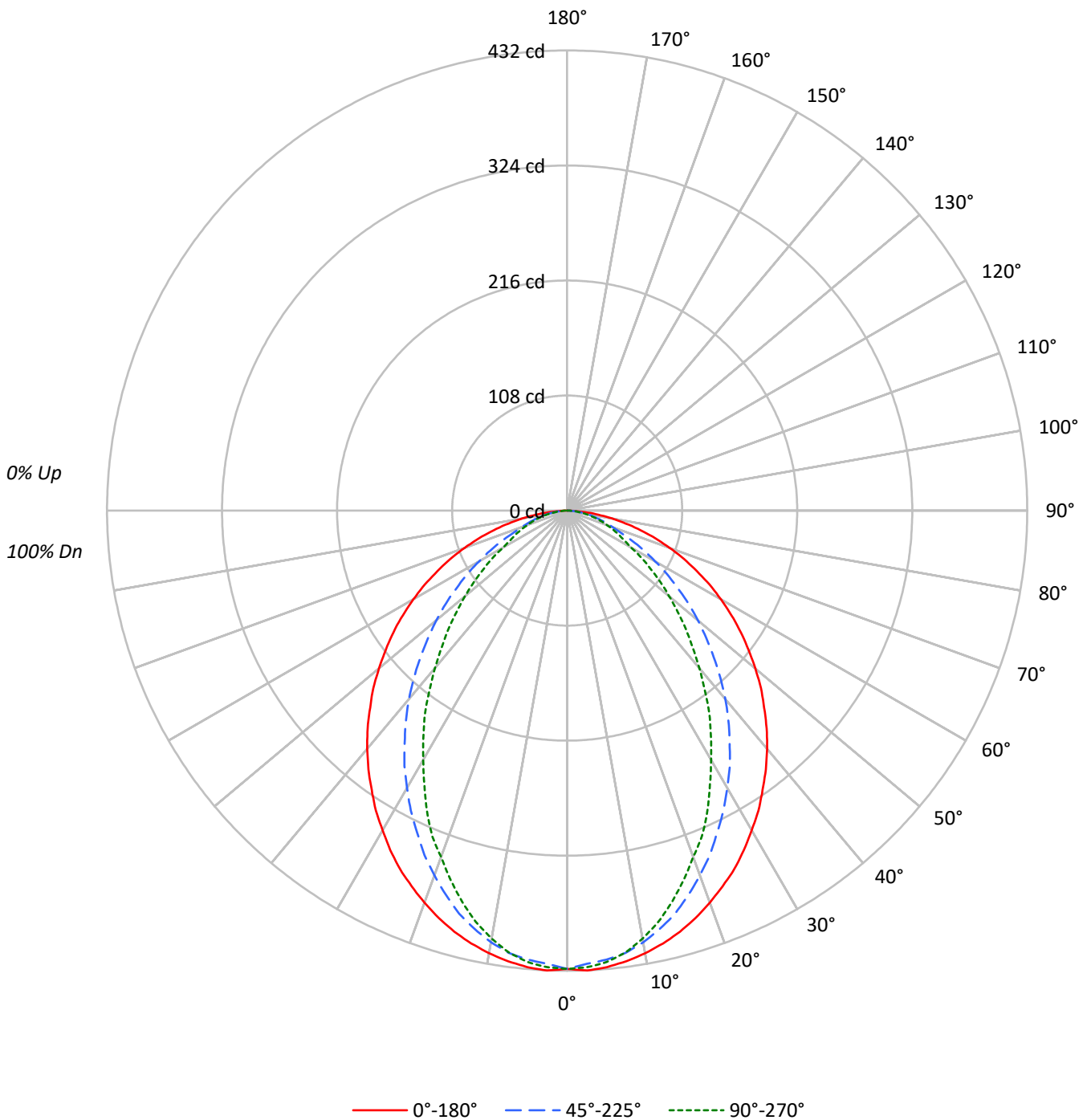
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 884.8 lumens  
Efficiency: N/A  
Efficacy: 76.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.6  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

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

	0°	45°	90°
0°	8194	8194	8194
5°	8226	8092	8136
10°	8162	7959	7891
15°	8069	7724	7501
20°	7940	7386	7015
25°	7806	7005	6547
30°	7621	6612	5943
35°	7441	6183	5413
40°	7261	5741	4801
45°	7047	5245	4248
50°	6830	4741	3704
55°	6609	4201	3181
60°	6347	3634	2640
65°	6053	3051	2402
70°	5703	2517	2211
75°	5269	2289	2061
80°	4651	2051	1876
85°	3650	1617	1617

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7047 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.3	4.6
10°-20°	110.7	12.5
20°-30°	155.4	17.6
30°-40°	169.4	19.1
40°-50°	155.7	17.6
50°-60°	122.3	13.8
60°-70°	79.6	9.0
70°-80°	41.0	4.6
80°-90°	10.5	1.2
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°	306.4	34.6
0°-40°	475.8	53.8
0°-60°	753.8	85.2
0°-90°	884.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	884.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	430	430	430	430	430	
5°	430	428	423	427	426	41
15°	409	405	392	384	380	115
25°	371	359	333	317	312	171
35°	320	300	266	241	233	200
45°	262	236	195	167	158	202
55°	199	169	126	103	96	178
65°	134	103	68	54	53	133
75°	72	44	31	28	28	76
85°	17	9	7	7	7	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	430.2	430.2	430.2	430.2	430.2
2.5°	432.2	430.2	425.9	429.8	429.1
5°	430.2	428.3	423.2	426.7	425.5
7.5°	426.7	424.4	418.9	420.5	418.5
10°	422.0	419.3	411.5	410.4	408.0
12.5°	416.2	412.7	402.2	399.9	395.6
15°	409.2	404.9	391.7	384.3	380.4
17.5°	401.0	394.8	378.4	369.9	363.6
20°	391.7	383.9	364.4	354.7	346.1
22.5°	381.6	372.6	350.0	336.8	330.9
25°	371.4	359.0	333.3	317.3	311.5
27.5°	359.4	346.1	317.7	299.4	290.4
30°	346.5	331.7	300.6	280.7	270.2
32.5°	334.1	316.1	284.2	260.9	251.1
35°	320.0	300.2	265.9	241.4	232.8
37.5°	306.4	285.0	248.8	221.9	212.2
40°	292.0	268.6	230.9	203.2	193.1
42.5°	277.2	252.3	213.0	184.2	174.4
45°	261.6	235.6	194.7	167.0	157.7
47.5°	246.8	219.2	177.2	149.5	140.9
50°	230.5	202.8	160.0	133.2	125.0
52.5°	214.5	185.3	143.7	118.0	110.6
55°	199.0	168.6	126.5	103.2	95.8
57.5°	183.0	151.8	111.4	89.5	83.3
60°	166.6	135.5	95.4	75.5	69.3
62.5°	150.7	119.5	81.8	63.1	60.0
65°	134.3	102.8	67.7	54.5	53.3
67.5°	118.7	87.2	54.5	47.9	46.7
70°	102.4	72.0	45.2	41.3	39.7
72.5°	86.8	58.0	37.8	34.7	33.9
75°	71.6	44.4	31.1	28.4	28.0
77.5°	56.5	31.5	24.5	23.0	22.2
80°	42.4	22.6	18.7	17.1	17.1
82.5°	29.6	15.2	12.8	12.1	12.1
85°	16.7	8.6	7.4	7.4	7.4
87.5°	6.2	3.1	3.1	2.7	2.7
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	18.54	20.06	18.91	20.38	20.69	14.50	16.02	14.86	16.34	16.65
	3H	20.31	21.67	20.68	22.00	22.36	15.77	17.13	16.14	17.46	17.82
	4H	20.97	22.25	21.37	22.60	22.98	16.27	17.55	16.67	17.90	18.28
	6H	21.46	22.65	21.87	23.01	23.40	16.65	17.83	17.06	18.20	18.59
	8H	21.63	22.75	22.05	23.14	23.54	16.77	17.90	17.20	18.29	18.69
	12H	21.73	22.81	22.16	23.19	23.62	16.86	17.93	17.29	18.32	18.75
4H	2H	18.65	19.93	19.04	20.27	20.65	15.20	16.48	15.60	16.82	17.20
	3H	20.58	21.64	20.99	22.04	22.44	16.64	17.70	17.05	18.10	18.50
	4H	21.33	22.29	21.76	22.70	23.14	17.24	18.20	17.67	18.61	19.05
	6H	21.92	22.75	22.38	23.20	23.65	17.73	18.56	18.19	19.00	19.46
	8H	22.14	22.91	22.60	23.36	23.82	17.89	18.67	18.35	19.11	19.58
	12H	22.29	22.98	22.77	23.46	23.93	18.01	18.70	18.49	19.18	19.65
8H	4H	21.35	22.13	21.82	22.57	23.04	17.59	18.37	18.06	18.82	19.28
	6H	21.99	22.63	22.49	23.12	23.60	18.18	18.82	18.68	19.31	19.79
	8H	22.24	22.82	22.75	23.33	23.82	18.40	18.98	18.92	19.49	19.98
	12H	22.45	22.96	22.95	23.45	24.01	18.58	19.09	19.09	19.58	20.15
12H	4H	21.34	22.03	21.82	22.51	22.98	17.64	18.33	18.12	18.81	19.28
	6H	21.97	22.55	22.48	23.06	23.55	18.24	18.82	18.76	19.33	19.82
	8H	22.26	22.77	22.77	23.26	23.82	18.52	19.03	19.03	19.52	20.08