

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: P243223

Luminaire Tested: S122RDRP-H290D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243223  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-63)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDRP-H290D835-X4F0-XX-UDD-F-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

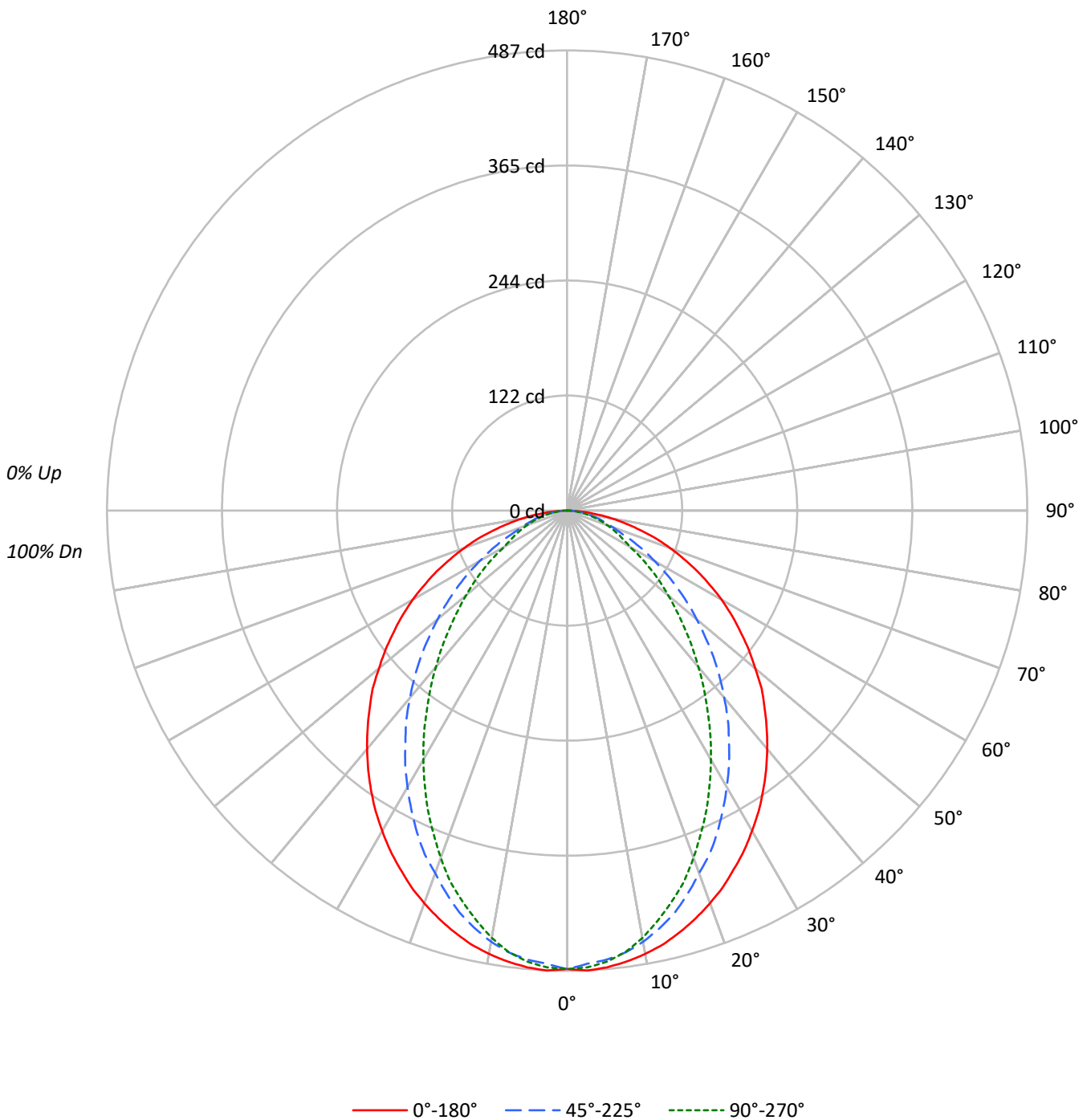
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 995.1 lumens  
Efficiency: N/A  
Efficacy: 88.8 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): 11.2  
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	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	77	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°	9242	9242	9242
5°	9277	9124	9164
10°	9214	8963	8882
15°	9107	8685	8446
20°	8961	8274	7926
25°	8789	7900	7337
30°	8609	7430	6693
35°	8411	6941	6025
40°	8193	6433	5371
45°	7963	5897	4725
50°	7705	5310	4143
55°	7439	4726	3573
60°	7192	4069	2918
65°	6869	3434	2700
70°	6460	2846	2517
75°	5888	2591	2311
80°	5276	2293	2062
85°	4393	1923	1836

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7963 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.4	4.6
10°-20°	124.5	12.5
20°-30°	174.7	17.6
30°-40°	190.3	19.1
40°-50°	174.9	17.6
50°-60°	137.3	13.8
60°-70°	89.6	9.0
70°-80°	46.3	4.7
80°-90°	12.0	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°	344.7	34.6
0°-40°	535.0	53.8
0°-60°	847.2	85.1
0°-90°	995.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	995.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	485	485	485	485	485	
5°	485	483	477	481	479	46
15°	462	456	440	432	428	130
25°	418	404	376	358	349	193
35°	362	338	298	271	259	226
45°	296	265	219	187	175	228
55°	224	190	142	116	108	201
65°	152	116	76	62	60	150
75°	80	50	35	32	31	86
85°	20	10	9	8	8	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	485.2	485.2	485.2	485.2	485.2
2.5°	487.3	485.2	480.2	484.8	483.9
5°	485.2	482.7	477.2	480.6	479.3
7.5°	481.4	478.9	471.8	473.5	471.4
10°	476.4	473.1	463.4	461.8	459.2
12.5°	470.1	465.5	452.5	447.5	444.2
15°	461.8	456.3	440.4	431.6	428.3
17.5°	452.5	444.6	424.9	414.9	411.5
20°	442.1	432.9	408.2	397.7	391.0
22.5°	431.2	419.5	393.9	377.6	369.7
25°	418.2	403.6	375.9	357.5	349.1
27.5°	405.7	388.5	357.1	335.7	326.5
30°	391.4	372.6	337.8	313.1	304.3
32.5°	377.2	355.4	319.0	292.2	282.2
35°	361.7	337.8	298.5	270.9	259.1
37.5°	345.8	321.1	279.6	249.1	237.8
40°	329.5	301.8	258.7	226.9	216.0
42.5°	312.7	284.7	239.0	206.4	195.9
45°	295.6	265.4	218.9	187.1	175.4
47.5°	279.2	246.6	198.4	168.3	157.0
50°	260.0	227.7	179.2	148.6	139.8
52.5°	242.4	208.9	160.3	131.0	123.5
55°	224.0	190.5	142.3	115.5	107.6
57.5°	206.8	171.2	124.3	100.1	92.5
60°	188.8	152.8	106.8	84.6	76.6
62.5°	170.0	134.0	91.3	70.3	67.8
65°	152.4	115.5	76.2	62.0	59.9
67.5°	133.5	98.4	60.7	54.4	52.3
70°	116.0	81.6	51.1	46.5	45.2
72.5°	98.8	65.7	43.1	39.4	38.1
75°	80.0	49.8	35.2	32.2	31.4
77.5°	63.6	35.2	28.0	26.0	25.1
80°	48.1	25.5	20.9	19.7	18.8
82.5°	33.1	17.2	14.7	13.8	13.4
85°	20.1	9.6	8.8	8.4	8.4
87.5°	8.0	3.8	3.8	3.3	3.3
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	18.97	20.49	19.34	20.81	21.12	14.86	16.38	15.23	16.70	17.01
	3H	20.74	22.10	21.12	22.43	22.79	16.15	17.52	16.53	17.85	18.21
	4H	21.40	22.68	21.80	23.03	23.41	16.66	17.94	17.06	18.29	18.67
	6H	21.89	23.07	22.30	23.44	23.83	17.04	18.23	17.45	18.59	18.98
	8H	22.05	23.18	22.48	23.57	23.97	17.16	18.29	17.59	18.68	19.08
	12H	22.16	23.24	22.59	23.63	24.05	17.25	18.33	17.68	18.71	19.14
4H	2H	19.07	20.35	19.47	20.70	21.08	15.57	16.85	15.97	17.20	17.58
	3H	21.01	22.08	21.42	22.47	22.88	17.04	18.10	17.45	18.50	18.90
	4H	21.76	22.71	22.19	23.13	23.57	17.64	18.60	18.08	19.02	19.46
	6H	22.35	23.18	22.80	23.62	24.08	18.14	18.97	18.59	19.41	19.87
	8H	22.56	23.34	23.02	23.78	24.25	18.30	19.07	18.76	19.52	19.99
	12H	22.72	23.42	23.21	23.90	24.37	18.41	19.11	18.90	19.59	20.06
8H	4H	21.78	22.56	22.24	23.00	23.47	18.00	18.78	18.47	19.23	19.69
	6H	22.42	23.06	22.91	23.55	24.03	18.60	19.24	19.09	19.73	20.21
	8H	22.67	23.24	23.18	23.75	24.24	18.82	19.40	19.33	19.91	20.39
	12H	22.88	23.39	23.39	23.88	24.45	19.00	19.51	19.51	20.00	20.57
12H	4H	21.77	22.46	22.25	22.94	23.41	18.05	18.74	18.53	19.22	19.69
	6H	22.40	22.98	22.91	23.49	23.97	18.66	19.24	19.18	19.75	20.24
	8H	22.68	23.19	23.19	23.69	24.25	18.94	19.45	19.45	19.94	20.50