

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: P242323

Luminaire Tested: S122DRP-S1005D927-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242323  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S1005D927-X4F0-XX-UDD-D-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

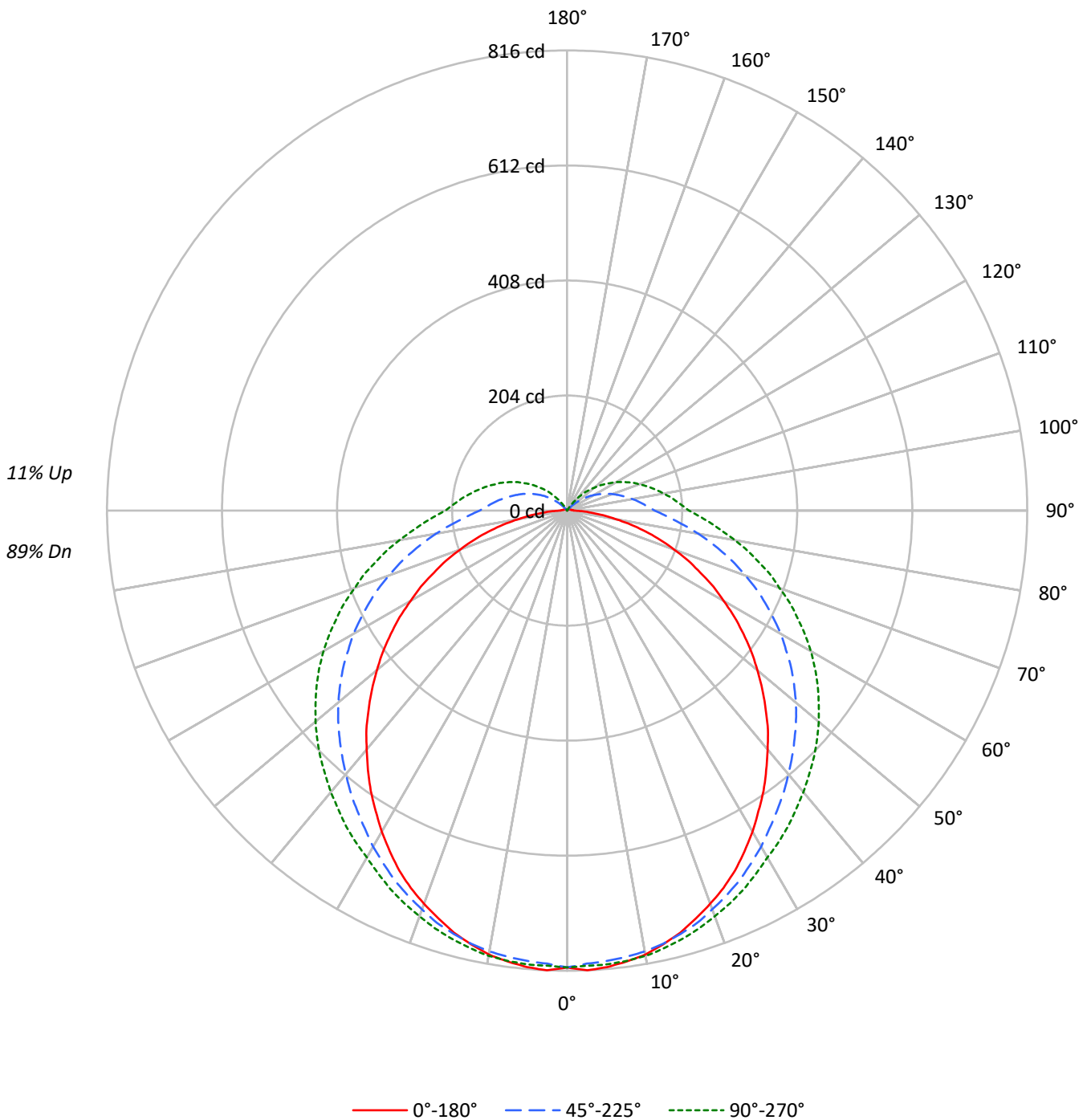
Lumens per Lamp: N/A  
Luminaire Lumens: 3091.1 lumens  
Efficiency: N/A  
Efficacy: 75.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 41.1  
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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	104	98	93	88	100	95	90	86	88	85	81	82	79	77	77	75	72	69
2	94	84	77	70	90	81	74	68	76	70	65	71	66	62	66	62	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	46
4	77	64	55	48	74	62	54	47	58	51	45	55	48	43	51	46	42	39
5	71	57	48	41	68	56	47	40	52	44	39	49	42	37	46	40	36	33
6	65	51	42	35	63	50	41	35	47	39	34	44	37	32	42	36	31	29
7	60	46	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	25
8	56	42	34	28	54	41	33	27	39	32	26	37	30	25	35	29	25	23
9	52	39	30	25	50	38	30	24	36	29	24	34	27	23	32	26	22	20
10	49	36	28	22	47	35	27	22	33	26	21	31	25	21	30	24	20	18

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

	0°	45°	90°
0°	15431	15431	15431
5°	15506	14790	14710
10°	15405	14295	14090
15°	15193	13778	13452
20°	14924	13236	12845
25°	14657	12714	12294
30°	14284	12183	11747
35°	13905	11672	11348
40°	13507	11230	10951
45°	13127	10830	10606
50°	12721	10463	10265
55°	12295	10072	9918
60°	11771	9664	9554
65°	11228	9194	9130
70°	10617	8691	8677
75°	9838	8187	8246
80°	8613	7664	7804
85°	7421	7177	7426

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13127 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.8	2.5
10°-20°	220.3	7.1
20°-30°	333.7	10.8
30°-40°	406.4	13.1
40°-50°	437.2	14.1
50°-60°	424.6	13.7
60°-70°	370.8	12.0
70°-80°	285.4	9.2
80°-90°	191.2	6.2
90°-100°	131.9	4.3
100°-110°	96.3	3.1
110°-120°	63.6	2.1
120°-130°	35.4	1.1
130°-140°	14.9	0.5
140°-150°	2.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	630.8	20.4
0°-40°	1037.2	33.6
0°-60°	1899.1	61.4
0°-90°	2746.5	88.9
90°-120°	291.8	9.4
90°-150°	344.6	11.1
90°-180°	345.0	11.2
0°-180°	3091.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	810	810	810	810	810	
5°	812	809	802	809	808	77
15°	775	777	777	788	787	218
25°	704	713	723	737	741	324
35°	607	627	649	675	683	379
45°	498	530	571	607	619	384
55°	382	424	485	527	542	341
65°	261	318	387	436	451	259
75°	144	210	285	336	351	153
85°	42	115	190	240	256	45
90°	12	80	155	202	216	8
95°	9	65	135	180	194	7
105°	6	40	101	142	155	7
115°	5	18	70	106	119	4
125°	2	2	40	72	82	2
135°	1	1	13	38	47	1
145°	0	0	0	7	13	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	810.1	810.1	810.1	810.1	810.1
2.5°	816.0	812.5	804.2	810.1	807.8
5°	812.5	808.9	801.9	808.9	807.8
7.5°	806.6	804.2	798.4	806.6	805.4
10°	799.5	797.2	793.7	803.1	801.9
12.5°	787.8	789.0	786.6	796.0	794.8
15°	774.9	777.2	777.2	787.8	786.6
17.5°	758.5	763.1	766.7	777.2	777.2
20°	742.0	747.9	752.6	765.5	765.5
22.5°	724.4	731.4	738.5	751.4	753.8
25°	704.4	712.7	723.2	737.3	740.8
27.5°	681.0	693.9	705.6	723.2	725.6
30°	657.5	672.7	688.0	706.8	710.3
32.5°	631.7	649.3	668.0	690.4	697.4
35°	607.0	627.0	649.3	675.1	683.3
37.5°	580.0	602.3	630.5	658.7	666.9
40°	553.0	578.8	610.5	641.0	651.6
42.5°	527.2	553.0	590.6	624.6	635.2
45°	497.8	529.5	570.6	607.0	618.7
47.5°	469.6	503.7	550.6	588.2	601.1
50°	440.3	476.7	529.5	569.4	582.3
52.5°	412.1	450.8	507.2	548.3	562.4
55°	381.6	423.8	484.9	527.2	542.4
57.5°	352.2	399.2	460.2	506.0	521.3
60°	320.5	371.0	437.9	482.5	499.0
62.5°	292.3	345.2	412.1	460.2	475.5
65°	260.6	318.2	387.4	435.6	450.8
67.5°	232.5	292.3	362.8	410.9	427.4
70°	201.9	263.0	335.8	386.3	400.4
72.5°	173.8	237.2	311.1	360.4	378.1
75°	144.4	210.2	285.3	335.8	351.0
77.5°	116.2	184.3	260.6	311.1	327.6
80°	88.1	159.7	236.0	285.3	301.7
82.5°	64.6	135.0	212.5	261.8	277.1
85°	42.3	115.1	190.2	239.5	255.9
87.5°	25.8	96.3	171.4	219.6	234.8
90°	11.7	79.8	155.0	201.9	216.0
92.5°	10.6	72.8	144.4	190.2	204.3
95°	9.4	64.6	135.0	179.6	193.7
97.5°	8.2	58.7	126.8	170.2	184.3
100°	8.2	51.7	117.4	160.8	173.8
102.5°	7.0	45.8	109.2	151.5	164.4
105°	5.9	39.9	101.0	142.1	155.0
107.5°	5.9	34.0	92.8	132.7	145.6
110°	4.7	28.2	85.7	123.3	136.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	4.7	23.5	77.5	115.1	128.0
115°	4.7	17.6	70.4	105.7	118.6
117.5°	3.5	12.9	62.2	97.4	109.2
120°	3.5	8.2	55.2	88.1	101.0
122.5°	3.5	4.7	48.1	79.8	90.4
125°	2.3	2.3	39.9	71.6	82.2
127.5°	2.3	1.2	32.9	62.2	72.8
130°	2.3	1.2	25.8	54.0	63.4
132.5°	2.3	1.2	18.8	45.8	55.2
135°	1.2	1.2	12.9	37.6	47.0
137.5°	1.2	1.2	7.0	29.4	37.6
140°	1.2	0.0	2.3	21.1	28.2
142.5°	1.2	0.0	0.0	14.1	20.0
145°	0.0	0.0	0.0	7.0	12.9
147.5°	0.0	0.0	0.0	1.2	4.7
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	17.73	19.21	18.25	19.74	20.31	20.79	22.27	21.31	22.80	23.38
	3H	19.23	20.58	19.77	21.12	21.73	23.42	24.77	23.96	25.31	25.92
	4H	19.73	21.01	20.29	21.57	22.20	24.70	25.98	25.25	26.54	27.16
	6H	20.04	21.24	20.61	21.81	22.45	26.03	27.23	26.60	27.79	28.44
	8H	20.12	21.27	20.70	21.86	22.51	26.71	27.86	27.29	28.45	29.10
	12H	20.16	21.26	20.75	21.84	22.52	27.46	28.57	28.05	29.15	29.83
4H	2H	18.84	20.12	19.40	20.68	21.30	21.18	22.46	21.74	23.02	23.65
	3H	20.59	21.69	21.17	22.29	22.94	24.02	25.12	24.59	25.71	26.36
	4H	21.24	22.25	21.83	22.85	23.53	25.46	26.47	26.05	27.07	27.76
	6H	21.69	22.59	22.30	23.21	23.90	26.97	27.86	27.58	28.49	29.18
	8H	21.82	22.66	22.43	23.28	23.99	27.75	28.59	28.36	29.22	29.92
	12H	21.89	22.66	22.53	23.31	24.02	28.62	29.38	29.25	30.04	30.75
8H	4H	22.08	22.92	22.70	23.55	24.26	25.66	26.50	26.27	27.13	27.83
	6H	22.74	23.46	23.39	24.13	24.84	27.32	28.04	27.96	28.70	29.41
	8H	22.97	23.62	23.63	24.30	25.02	28.22	28.87	28.88	29.54	30.27
	12H	23.14	23.72	23.80	24.38	25.17	29.25	29.83	29.92	30.50	31.28
12H	4H	22.31	23.08	22.95	23.73	24.44	25.66	26.43	26.30	27.08	27.79
	6H	23.09	23.74	23.74	24.41	25.13	27.35	28.00	28.01	28.67	29.40
	8H	23.42	24.00	24.08	24.67	25.45	28.32	28.90	28.98	29.56	30.35