

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: P243212

Luminaire Tested: S122DRP-H1005D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243212
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-53)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-H1005D940-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

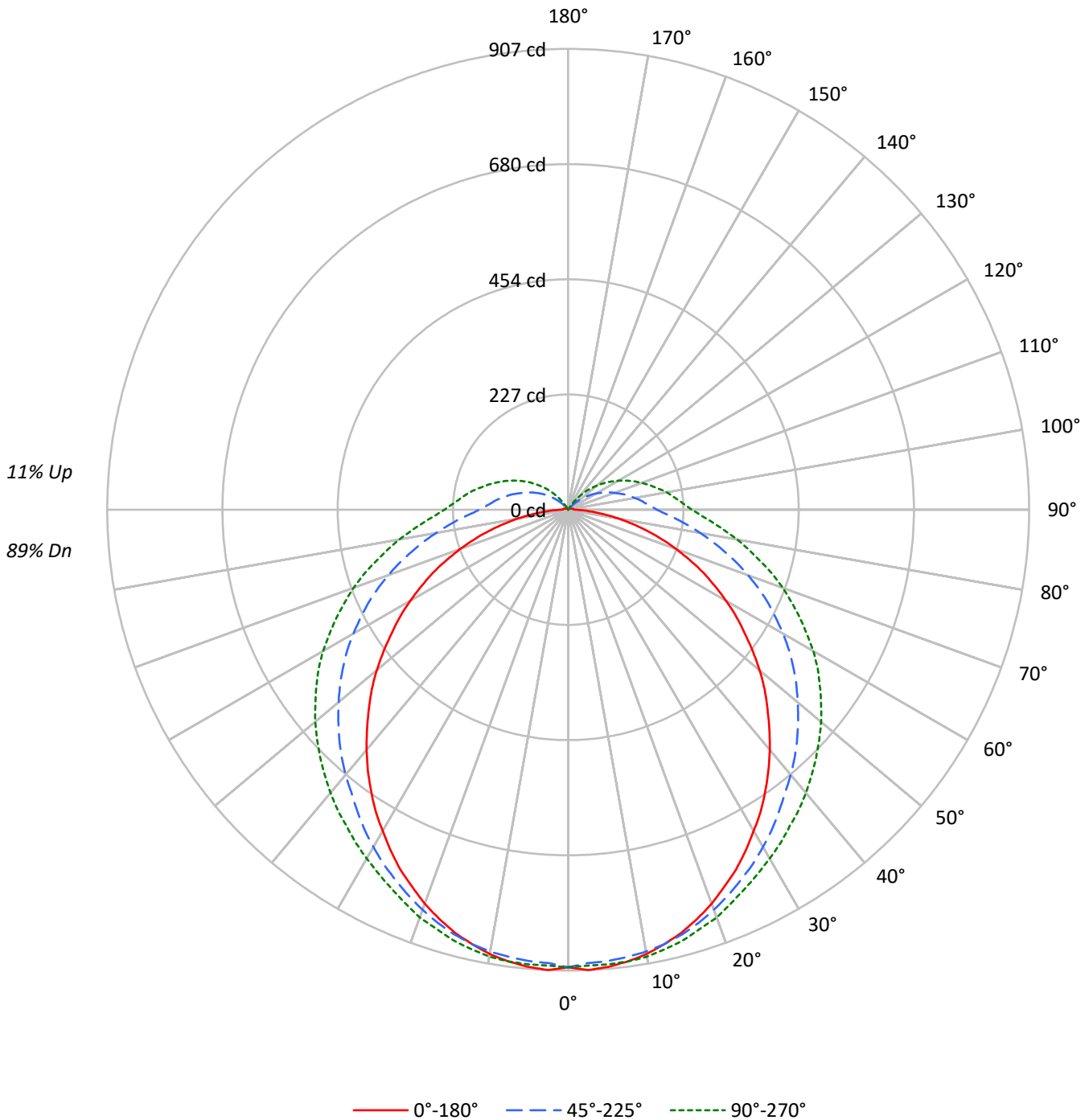
Lumens per Lamp: N/A
Luminaire Lumens: 3455.8 lumens
Efficiency: N/A
Efficacy: 91.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 37.7
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	84	81	82	79	76	77	74	72	69
2	93	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	41	39
5	71	57	48	41	68	55	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	41	36	31	29
7	60	46	37	31	58	45	37	30	42	35	29	40	33	28	38	32	28	25
8	56	42	33	27	54	41	33	27	39	31	26	37	30	25	35	29	25	22
9	52	39	30	25	50	38	30	24	36	28	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°	17154	17154	17154
5°	17235	16448	16355
10°	17110	15903	15693
15°	16895	15344	14994
20°	16599	14736	14334
25°	16259	14134	13654
30°	15859	13571	13110
35°	15488	13009	12624
40°	15072	12528	12227
45°	14620	12094	11826
50°	14206	11649	11453
55°	13661	11229	11056
60°	13174	10768	10663
65°	12645	10300	10187
70°	11874	9739	9730
75°	11023	9142	9193
80°	9806	8554	8727
85°	8578	8094	8262

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14620 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.4	2.5
10°-20°	245.2	7.1
20°-30°	371.3	10.7
30°-40°	452.9	13.1
40°-50°	487.5	14.1
50°-60°	473.9	13.7
60°-70°	414.3	12.0
70°-80°	318.9	9.2
80°-90°	214.3	6.2
90°-100°	148.3	4.3
100°-110°	109.1	3.2
110°-120°	72.6	2.1
120°-130°	41.1	1.2
130°-140°	17.7	0.5
140°-150°	3.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	701.9	20.3
0°-40°	1154.9	33.4
0°-60°	2116.2	61.2
0°-90°	3063.7	88.7
90°-120°	330.0	9.5
90°-150°	392.1	11.3
90°-180°	392.0	11.3
0°-180°	3455.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	901	901	901	901	901	
5°	903	899	892	899	898	86
15°	862	866	866	877	877	243
25°	781	794	804	822	823	360
35°	676	699	724	751	760	423
45°	554	588	637	676	690	428
55°	424	474	541	590	605	380
65°	294	356	434	487	503	289
75°	162	236	319	375	391	171
85°	49	129	214	268	285	50
90°	14	90	174	227	243	9
95°	10	73	152	202	217	8
105°	8	45	115	161	174	8
115°	5	21	80	120	134	5
125°	4	2	48	82	94	3
135°	1	1	16	44	55	1
145°	1	0	0	10	15	1
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°	900.6	900.6	900.6	900.6	900.6
2.5°	906.9	903.1	893.1	900.6	898.1
5°	903.1	899.3	891.8	899.3	898.1
7.5°	896.8	894.3	888.0	898.1	896.8
10°	888.0	886.8	883.0	893.1	893.1
12.5°	875.5	876.8	875.5	886.8	885.5
15°	861.7	865.5	865.5	876.8	876.8
17.5°	844.1	850.4	852.9	865.5	864.2
20°	825.3	832.9	837.9	851.7	854.2
22.5°	802.8	814.0	821.6	836.6	837.9
25°	781.4	794.0	804.0	821.6	822.8
27.5°	756.3	771.4	786.4	804.0	807.8
30°	730.0	748.8	766.4	787.7	792.7
32.5°	704.9	723.7	746.3	768.9	777.7
35°	676.1	698.6	723.7	751.3	760.1
37.5°	647.2	671.0	701.2	733.8	745.1
40°	617.1	644.7	681.1	716.2	727.5
42.5°	585.8	615.9	659.8	696.1	708.7
45°	554.4	588.3	637.2	676.1	689.9
47.5°	524.3	560.7	613.4	657.3	669.8
50°	491.7	531.8	589.5	634.7	649.7
52.5°	457.8	503.0	565.7	612.1	627.1
55°	424.0	474.1	540.6	589.5	604.6
57.5°	392.6	445.3	515.5	564.4	582.0
60°	358.7	415.2	487.9	539.3	556.9
62.5°	324.9	386.3	460.3	513.0	529.3
65°	293.5	356.2	434.0	486.7	503.0
67.5°	258.4	324.9	405.1	460.3	475.4
70°	225.8	296.0	376.3	431.5	449.0
72.5°	193.2	264.7	347.4	402.6	421.4
75°	161.8	235.8	318.6	375.0	391.3
77.5°	129.2	207.0	291.0	347.4	363.7
80°	100.3	178.1	263.4	319.8	337.4
82.5°	71.5	151.8	238.3	293.5	309.8
85°	48.9	129.2	214.5	268.4	284.7
87.5°	28.8	107.9	191.9	245.8	262.1
90°	13.8	90.3	174.3	227.0	243.3
92.5°	11.3	81.5	161.8	213.2	229.5
95°	10.0	72.7	151.8	201.9	217.0
97.5°	10.0	66.5	143.0	191.9	207.0
100°	8.8	59.0	133.0	180.6	196.9
102.5°	8.8	51.4	124.2	170.6	185.6
105°	7.5	45.2	115.4	160.6	174.3
107.5°	6.3	38.9	105.4	150.5	164.3
110°	6.3	32.6	96.6	140.5	154.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.0	27.6	89.1	130.4	144.2
115°	5.0	21.3	80.3	120.4	134.2
117.5°	5.0	15.1	71.5	110.4	124.2
120°	3.8	10.0	64.0	101.6	114.1
122.5°	3.8	6.3	55.2	91.6	104.1
125°	3.8	2.5	47.7	81.5	94.1
127.5°	2.5	2.5	38.9	72.7	84.0
130°	2.5	1.3	31.4	62.7	74.0
132.5°	2.5	1.3	23.8	53.9	64.0
135°	1.3	1.3	16.3	43.9	55.2
137.5°	1.3	1.3	8.8	35.1	43.9
140°	1.3	0.0	3.8	26.3	33.9
142.5°	1.3	0.0	0.0	17.6	25.1
145°	1.3	0.0	0.0	10.0	15.1
147.5°	0.0	0.0	0.0	2.5	7.5
150°	0.0	0.0	0.0	0.0	1.3
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	18.09	19.57	18.62	20.10	20.68	21.16	22.63	21.68	23.16	23.75
	3H	19.59	20.94	20.13	21.48	22.11	23.79	25.14	24.33	25.68	26.30
	4H	20.10	21.38	20.66	21.94	22.57	25.07	26.35	25.63	26.91	27.54
	6H	20.41	21.61	20.99	22.18	22.83	26.39	27.59	26.97	28.16	28.81
	8H	20.49	21.64	21.08	22.23	22.88	27.08	28.23	27.66	28.82	29.47
	12H	20.53	21.63	21.12	22.22	22.90	27.83	28.93	28.42	29.52	30.20
4H	2H	19.21	20.49	19.77	21.05	21.68	21.55	22.83	22.11	23.39	24.02
	3H	20.97	22.07	21.54	22.66	23.32	24.39	25.49	24.97	26.09	26.74
	4H	21.62	22.63	22.21	23.23	23.92	25.83	26.84	26.43	27.45	28.13
	6H	22.07	22.97	22.68	23.59	24.29	27.34	28.23	27.95	28.86	29.56
	8H	22.20	23.04	22.81	23.67	24.38	28.12	28.96	28.74	29.59	30.30
	12H	22.27	23.04	22.91	23.70	24.41	28.99	29.75	29.63	30.41	31.12
8H	4H	22.46	23.30	23.08	23.93	24.64	26.03	26.87	26.65	27.50	28.21
	6H	23.12	23.84	23.77	24.51	25.22	27.69	28.41	28.34	29.07	29.79
	8H	23.35	24.00	24.01	24.68	25.41	28.60	29.24	29.26	29.92	30.65
	12H	23.52	24.10	24.19	24.77	25.56	29.63	30.21	30.29	30.87	31.66
12H	4H	22.69	23.46	23.33	24.11	24.83	26.03	26.80	26.67	27.45	28.17
	6H	23.47	24.11	24.13	24.79	25.52	27.72	28.37	28.38	29.05	29.77
	8H	23.81	24.38	24.47	25.05	25.84	28.69	29.27	29.36	29.94	30.73