

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: P242337

Luminaire Tested: S122DRP-S1005D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242337
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-S1005D840-X4F0-XX-UDD-D-W
Description: DEFINE 2 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

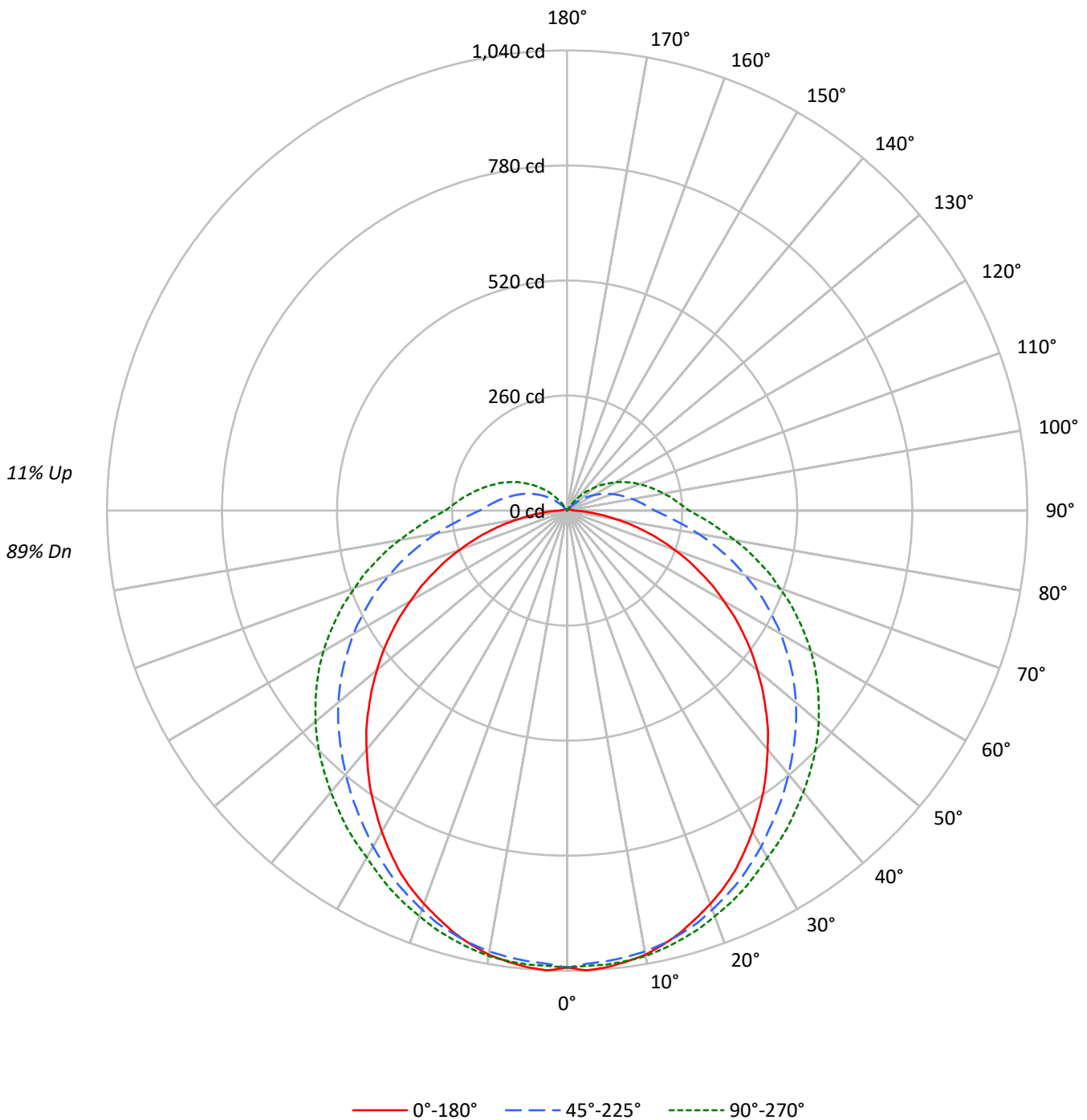
Lumens per Lamp: N/A
Luminaire Lumens: 3940.5 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.15' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

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

TEST NUMBER: P242337

CATALOG NUMBER: S122DRP-S1005D840-X4F0-XX-UDD-D-W

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°	19671	19671	19671
5°	19766	18853	18751
10°	19640	18223	17961
15°	19367	17565	17149
20°	19025	16873	16374
25°	18686	16209	15672
30°	18210	15532	14975
35°	17726	14879	14467
40°	17217	14316	13961
45°	16735	13806	13522
50°	16217	13338	13087
55°	15671	12839	12645
60°	15007	12321	12179
65°	14317	11722	11639
70°	13535	11079	11061
75°	12542	10437	10513
80°	10979	9769	9951
85°	9456	9150	9469

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16735 cd/sqm



TEST NUMBER: P242337

CATALOG NUMBER: S122DRP-S1005D840-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.9	2.5
10°-20°	280.8	7.1
20°-30°	425.4	10.8
30°-40°	518.1	13.1
40°-50°	557.4	14.1
50°-60°	541.3	13.7
60°-70°	472.7	12.0
70°-80°	363.8	9.2
80°-90°	243.7	6.2
90°-100°	168.1	4.3
100°-110°	122.8	3.1
110°-120°	81.1	2.1
120°-130°	45.2	1.1
130°-140°	19.0	0.5
140°-150°	3.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	804.1	20.4
0°-40°	1322.2	33.6
0°-60°	2420.9	61.4
0°-90°	3501.2	88.9
90°-120°	372.0	9.4
90°-150°	439.3	11.1
90°-180°	439.0	11.1
0°-180°	3940.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1033	1033	1033	1033	1033	
5°	1036	1031	1022	1031	1030	98
15°	988	991	991	1004	1003	278
25°	898	908	922	940	944	413
35°	774	799	828	861	871	484
45°	635	675	727	774	789	490
55°	486	540	618	672	692	435
65°	332	406	494	555	575	330
75°	184	268	364	428	448	195
85°	54	147	242	305	326	57
90°	15	102	198	257	275	10
95°	12	82	172	229	247	9
105°	8	51	129	181	198	9
115°	6	22	90	135	151	5
125°	3	3	51	91	105	3
135°	2	2	16	48	60	2
145°	0	0	0	9	16	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

TEST NUMBER: P242337

CATALOG NUMBER: S122DRP-S1005D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1032.7	1032.7	1032.7	1032.7	1032.7
2.5°	1040.2	1035.7	1025.2	1032.7	1029.7
5°	1035.7	1031.2	1022.2	1031.2	1029.7
7.5°	1028.2	1025.2	1017.8	1028.2	1026.7
10°	1019.3	1016.3	1011.8	1023.7	1022.2
12.5°	1004.3	1005.8	1002.8	1014.8	1013.3
15°	987.8	990.8	990.8	1004.3	1002.8
17.5°	966.9	972.9	977.3	990.8	990.8
20°	945.9	953.4	959.4	975.8	975.8
22.5°	923.5	932.4	941.4	957.9	960.9
25°	898.0	908.5	922.0	939.9	944.4
27.5°	868.1	884.5	899.5	922.0	925.0
30°	838.2	857.6	877.1	901.0	905.5
32.5°	805.2	827.7	851.6	880.1	889.0
35°	773.8	799.2	827.7	860.6	871.1
37.5°	739.4	767.8	803.7	839.6	850.1
40°	704.9	737.9	778.3	817.2	830.7
42.5°	672.0	704.9	752.8	796.2	809.7
45°	634.6	675.0	727.4	773.8	788.8
47.5°	598.7	642.1	702.0	749.8	766.3
50°	561.3	607.7	675.0	725.9	742.4
52.5°	525.3	574.7	646.6	699.0	716.9
55°	486.4	540.3	618.1	672.0	691.5
57.5°	449.0	508.9	586.7	645.1	664.5
60°	408.6	473.0	558.3	615.1	636.1
62.5°	372.7	440.0	525.3	586.7	606.2
65°	332.3	405.6	493.9	555.3	574.7
67.5°	296.3	372.7	462.5	523.8	544.8
70°	257.4	335.3	428.1	492.4	510.4
72.5°	221.5	302.3	396.6	459.5	481.9
75°	184.1	267.9	363.7	428.1	447.5
77.5°	148.2	235.0	332.3	396.6	417.6
80°	112.3	203.6	300.8	363.7	384.7
82.5°	82.3	172.1	270.9	333.8	353.2
85°	53.9	146.7	242.5	305.3	326.3
87.5°	32.9	122.7	218.5	279.9	299.3
90°	15.0	101.8	197.6	257.4	275.4
92.5°	13.5	92.8	184.1	242.5	260.4
95°	12.0	82.3	172.1	229.0	247.0
97.5°	10.5	74.8	161.6	217.0	235.0
100°	10.5	65.9	149.7	205.0	221.5
102.5°	9.0	58.4	139.2	193.1	209.5
105°	7.5	50.9	128.7	181.1	197.6
107.5°	7.5	43.4	118.2	169.1	185.6
110°	6.0	35.9	109.3	157.2	173.6



TEST NUMBER: P242337

CATALOG NUMBER: S122DRP-S1005D840-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.0	29.9	98.8	146.7	163.1
115°	6.0	22.5	89.8	134.7	151.2
117.5°	4.5	16.5	79.3	124.2	139.2
120°	4.5	10.5	70.3	112.3	128.7
122.5°	4.5	6.0	61.4	101.8	115.2
125°	3.0	3.0	50.9	91.3	104.8
127.5°	3.0	1.5	41.9	79.3	92.8
130°	3.0	1.5	32.9	68.8	80.8
132.5°	3.0	1.5	23.9	58.4	70.3
135°	1.5	1.5	16.5	47.9	59.9
137.5°	1.5	1.5	9.0	37.4	47.9
140°	1.5	0.0	3.0	26.9	35.9
142.5°	1.5	0.0	0.0	18.0	25.4
145°	0.0	0.0	0.0	9.0	16.5
147.5°	0.0	0.0	0.0	1.5	6.0
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	18.57	20.05	19.10	20.58	21.16	21.63	23.11	22.16	23.64	24.22
	3H	20.07	21.42	20.61	21.96	22.58	24.26	25.61	24.80	26.15	26.77
	4H	20.57	21.86	21.13	22.41	23.04	25.54	26.83	26.10	27.38	28.01
	6H	20.89	22.09	21.46	22.65	23.29	26.87	28.07	27.44	28.64	29.28
	8H	20.96	22.11	21.55	22.70	23.35	27.55	28.70	28.14	29.29	29.94
	12H	21.00	22.10	21.59	22.68	23.37	28.31	29.41	28.90	29.99	30.67
4H	2H	19.68	20.97	20.24	21.52	22.15	22.02	23.31	22.58	23.86	24.49
	3H	21.44	22.54	22.01	23.13	23.78	24.86	25.96	25.44	26.56	27.21
	4H	22.08	23.09	22.67	23.70	24.38	26.31	27.32	26.90	27.92	28.60
	6H	22.53	23.43	23.14	24.06	24.75	27.81	28.71	28.42	29.33	30.03
	8H	22.66	23.50	23.27	24.13	24.83	28.59	29.43	29.21	30.06	30.77
	12H	22.73	23.50	23.37	24.15	24.87	29.46	30.23	30.10	30.88	31.59
8H	4H	22.92	23.77	23.54	24.39	25.10	26.50	27.34	27.11	27.97	28.67
	6H	23.59	24.30	24.23	24.97	25.68	28.16	28.88	28.81	29.54	30.26
	8H	23.82	24.47	24.47	25.14	25.86	29.07	29.71	29.72	30.39	31.11
	12H	23.98	24.56	24.64	25.22	26.01	30.10	30.68	30.76	31.34	32.13
12H	4H	23.15	23.92	23.79	24.57	25.29	26.51	27.27	27.14	27.92	28.64
	6H	23.93	24.58	24.59	25.25	25.98	28.19	28.84	28.85	29.52	30.24
	8H	24.27	24.85	24.93	25.51	26.29	29.16	29.74	29.82	30.40	31.19