

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: P242508

Luminaire Tested: S123DRP-S1000D840-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242508
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-S1000D840-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

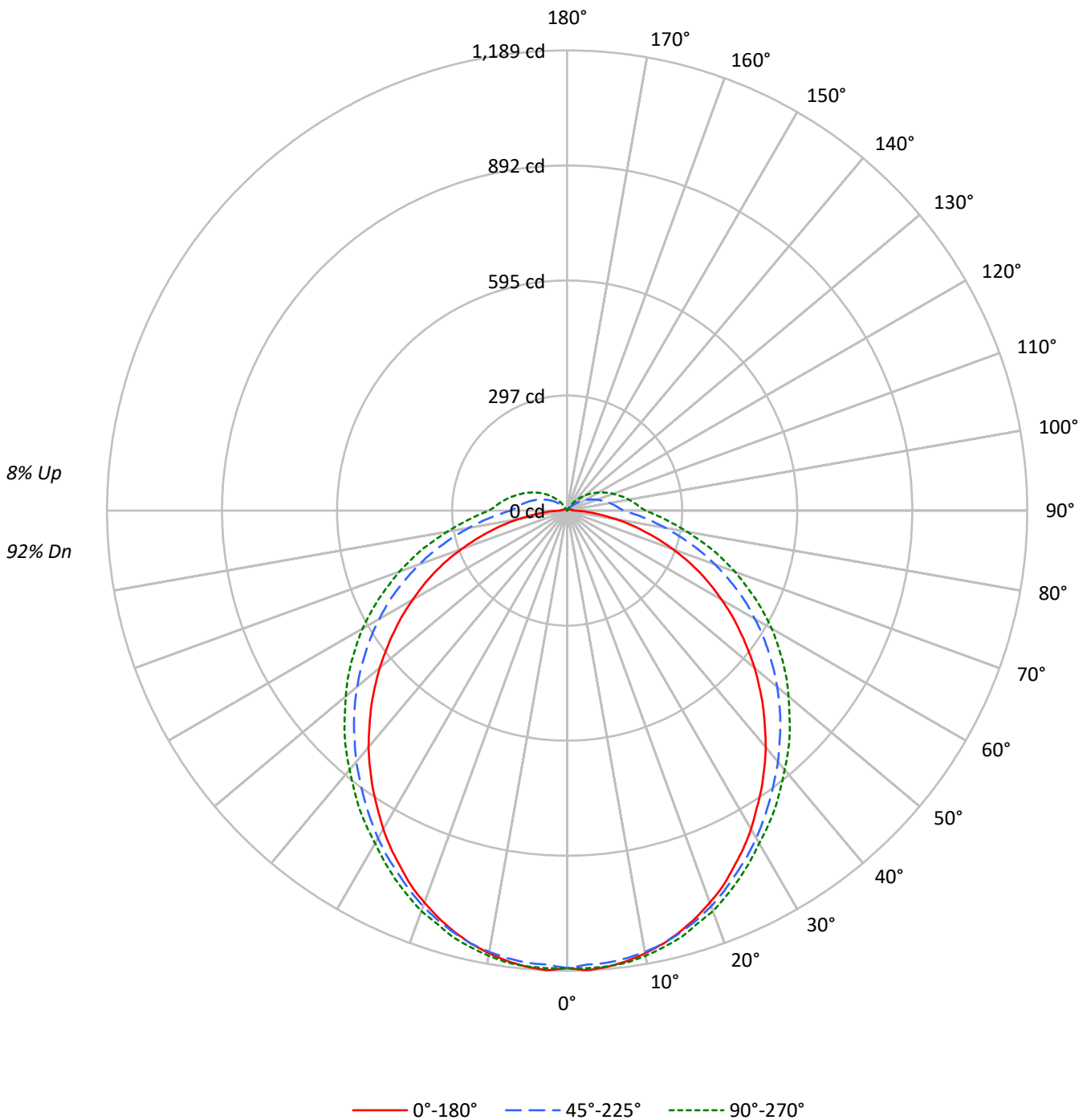
Lumens per Lamp: N/A
Luminaire Lumens: 3973.2 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 34.8
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	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	92
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	60
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14330	14330	14330
5°	14373	13943	13941
10°	14243	13598	13511
15°	14059	13209	13047
20°	13796	12771	12543
25°	13472	12272	12017
30°	13139	11823	11486
35°	12766	11348	11057
40°	12411	10914	10601
45°	12015	10497	10231
50°	11626	10084	9826
55°	11195	9660	9458
60°	10774	9228	9079
65°	10344	8767	8633
70°	9698	8251	8173
75°	8879	7658	7701
80°	7932	7067	7162
85°	7044	6618	6808

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12015 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.1	2.8
10°-20°	319.7	8.0
20°-30°	478.1	12.0
30°-40°	570.8	14.4
40°-50°	597.2	15.0
50°-60°	560.5	14.1
60°-70°	468.1	11.8
70°-80°	334.7	8.4
80°-90°	199.2	5.0
90°-100°	125.2	3.1
100°-110°	92.0	2.3
110°-120°	61.4	1.5
120°-130°	35.1	0.9
130°-140°	15.7	0.4
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°	909.9	22.9
0°-40°	1480.8	37.3
0°-60°	2638.5	66.4
0°-90°	3640.5	91.6
90°-120°	278.6	7.0
90°-150°	332.7	8.4
90°-180°	333.0	8.4
0°-180°	3973.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1182	1182	1182	1182	1182	
5°	1184	1181	1173	1184	1182	112
15°	1127	1131	1129	1142	1141	317
25°	1017	1030	1034	1051	1051	469
35°	876	896	913	932	938	548
45°	716	747	779	804	814	552
55°	546	588	635	670	680	489
65°	377	428	484	523	536	373
75°	205	265	330	372	388	219
85°	63	128	196	240	252	65
90°	17	80	146	189	202	12
95°	14	64	128	167	180	11
105°	10	41	97	133	144	10
115°	6	22	68	99	110	7
125°	4	4	41	68	77	4
135°	3	1	16	39	45	2
145°	1	0	0	10	16	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°	1182.2	1182.2	1182.2	1182.2	1182.2
2.5°	1188.7	1184.8	1174.5	1184.8	1183.5
5°	1183.5	1180.9	1173.2	1183.5	1182.2
7.5°	1174.5	1174.5	1166.8	1179.6	1178.4
10°	1161.6	1164.2	1157.8	1170.6	1168.1
12.5°	1146.2	1150.0	1146.2	1157.8	1155.2
15°	1126.8	1130.7	1129.4	1142.3	1141.0
17.5°	1103.7	1111.4	1110.1	1121.7	1119.1
20°	1077.9	1085.6	1088.2	1099.8	1101.1
22.5°	1050.9	1058.6	1062.5	1077.9	1076.6
25°	1017.4	1030.3	1034.1	1050.9	1050.9
27.5°	985.2	999.4	1007.1	1021.2	1022.5
30°	950.4	967.2	977.5	992.9	992.9
32.5°	911.8	931.1	945.3	962.0	965.9
35°	875.7	896.3	913.1	932.4	937.5
37.5°	837.1	860.3	879.6	901.5	905.3
40°	798.5	821.6	847.4	869.3	874.4
42.5°	756.0	785.6	812.6	837.1	844.8
45°	716.0	746.9	779.1	803.6	813.9
47.5°	673.5	708.3	744.4	771.4	779.1
50°	632.3	668.4	708.3	737.9	746.9
52.5°	588.5	627.2	672.2	703.2	714.7
55°	546.0	588.5	634.9	669.7	680.0
57.5°	504.8	548.6	598.8	633.6	645.2
60°	461.0	507.4	560.2	596.3	610.4
62.5°	419.8	467.5	524.1	560.2	573.1
65°	377.3	427.6	484.2	522.9	535.7
67.5°	334.8	387.6	444.3	486.8	497.1
70°	289.8	345.1	407.0	448.2	461.0
72.5°	248.6	303.9	368.3	410.8	423.7
75°	204.8	265.3	329.7	372.2	387.6
77.5°	167.4	227.9	292.3	337.4	349.0
80°	127.5	190.6	257.6	301.4	314.2
82.5°	92.7	157.1	225.4	269.2	282.0
85°	63.1	127.5	195.7	239.5	252.4
87.5°	38.6	103.0	168.7	212.5	225.4
90°	16.7	79.8	145.5	189.3	202.2
92.5°	15.5	70.8	135.2	177.7	189.3
95°	14.2	64.4	127.5	167.4	180.3
97.5°	12.9	59.2	119.8	158.4	171.3
100°	11.6	52.8	112.0	149.4	162.3
102.5°	10.3	46.4	104.3	140.4	153.3
105°	10.3	41.2	96.6	132.6	144.2
107.5°	9.0	36.1	88.9	123.6	135.2
110°	7.7	30.9	82.4	115.9	126.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.7	25.8	74.7	106.9	118.5
115°	6.4	21.9	68.3	99.2	109.5
117.5°	6.4	16.7	60.5	91.4	101.7
120°	5.2	11.6	54.1	83.7	92.7
122.5°	5.2	7.7	47.6	76.0	85.0
125°	3.9	3.9	41.2	68.3	77.3
127.5°	3.9	2.6	34.8	60.5	69.5
130°	3.9	2.6	28.3	52.8	60.5
132.5°	2.6	2.6	21.9	45.1	54.1
135°	2.6	1.3	15.5	38.6	45.1
137.5°	2.6	1.3	10.3	30.9	37.3
140°	1.3	1.3	5.2	24.5	30.9
142.5°	1.3	0.0	0.0	16.7	23.2
145°	1.3	0.0	0.0	10.3	15.5
147.5°	0.0	0.0	0.0	3.9	9.0
150°	0.0	0.0	0.0	0.0	2.6
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	18.30	19.81	18.79	20.29	20.80	20.30	21.80	20.79	22.28	22.80
	3H	19.86	21.23	20.36	21.72	22.28	22.68	24.05	23.18	24.54	25.10
	4H	20.38	21.68	20.90	22.19	22.76	23.79	25.09	24.31	25.60	26.17
	6H	20.72	21.93	21.26	22.46	23.04	24.90	26.11	25.43	26.63	27.21
	8H	20.81	21.97	21.36	22.52	23.11	25.45	26.61	26.00	27.16	27.75
	12H	20.86	21.97	21.41	22.51	23.13	26.06	27.17	26.61	27.71	28.33
4H	2H	19.21	20.51	19.73	21.02	21.59	20.76	22.06	21.28	22.56	23.13
	3H	21.01	22.12	21.55	22.67	23.26	23.35	24.46	23.89	25.01	25.60
	4H	21.67	22.69	22.23	23.25	23.87	24.62	25.63	25.17	26.19	26.82
	6H	22.15	23.04	22.72	23.63	24.27	25.90	26.80	26.48	27.38	28.02
	8H	22.28	23.12	22.87	23.71	24.36	26.55	27.39	27.13	27.98	28.63
	12H	22.37	23.13	22.97	23.75	24.40	27.27	28.03	27.87	28.64	29.30
8H	4H	22.31	23.15	22.89	23.73	24.38	24.84	25.68	25.42	26.27	26.92
	6H	22.96	23.68	23.58	24.30	24.96	26.29	27.00	26.90	27.62	28.28
	8H	23.20	23.84	23.82	24.48	25.14	27.06	27.70	27.69	28.34	29.01
	12H	23.37	23.94	24.00	24.57	25.30	27.94	28.52	28.57	29.14	29.87
12H	4H	22.46	23.23	23.07	23.84	24.49	24.86	25.62	25.46	26.23	26.89
	6H	23.21	23.85	23.83	24.49	25.15	26.33	26.97	26.95	27.60	28.27
	8H	23.53	24.10	24.16	24.73	25.46	27.17	27.74	27.80	28.37	29.10