

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: P242503

Luminaire Tested: S123DRP-S1000D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242503
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-S1000D835-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

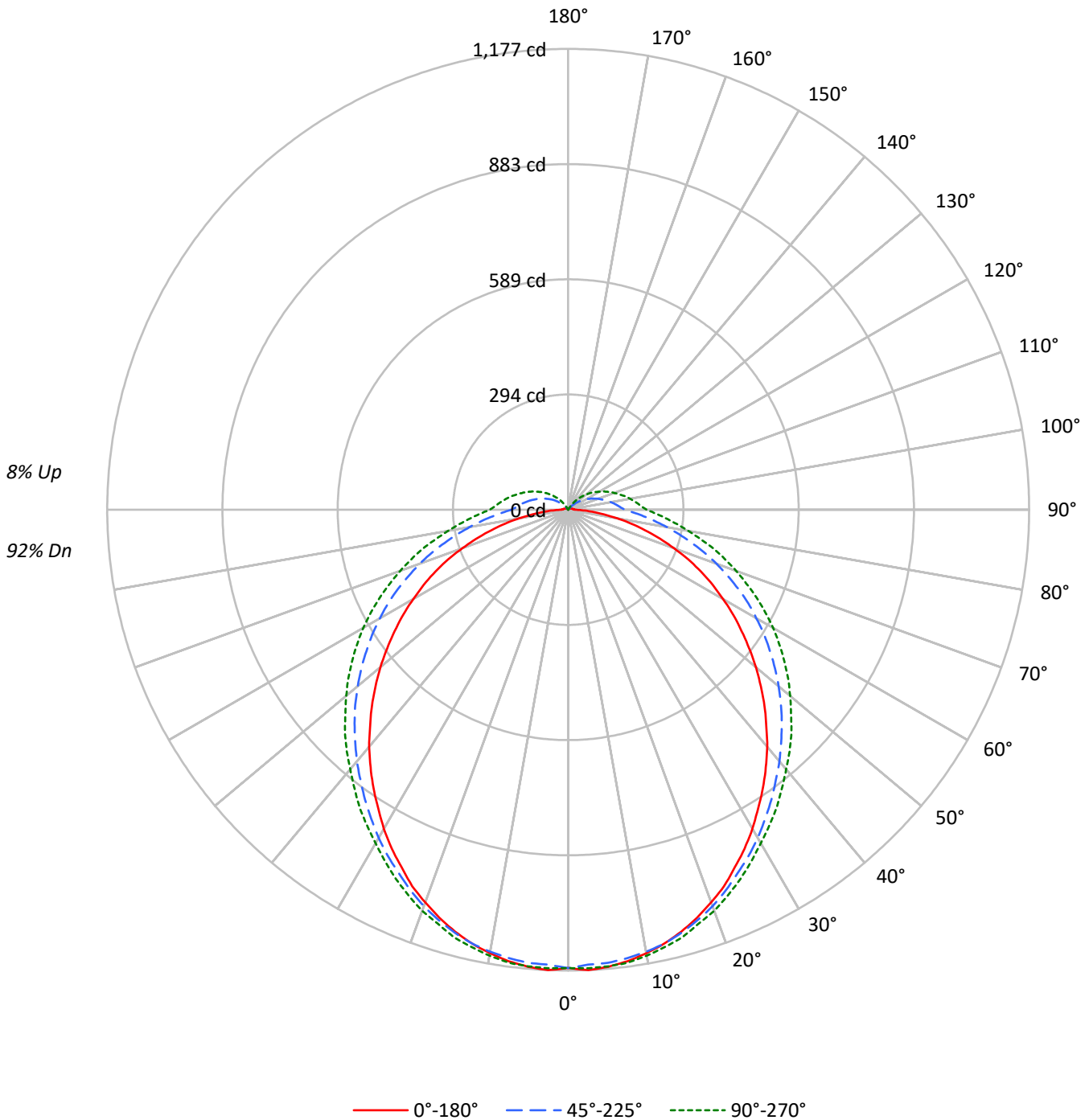
Lumens per Lamp: N/A
Luminaire Lumens: 3934.4 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

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	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°	14190	14190	14190
5°	14234	13806	13805
10°	14105	13464	13378
15°	13922	13080	12920
20°	13662	12647	12420
25°	13339	12152	11900
30°	13010	11707	11374
35°	12642	11236	10950
40°	12290	10808	10498
45°	11898	10394	10132
50°	11512	9986	9730
55°	11086	9566	9365
60°	10669	9137	8992
65°	10243	8682	8549
70°	9601	8170	8093
75°	8792	7584	7626
80°	7852	6996	7094
85°	6977	6554	6740

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11898 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.1	2.8
10°-20°	316.6	8.0
20°-30°	473.4	12.0
30°-40°	565.2	14.4
40°-50°	591.4	15.0
50°-60°	555.0	14.1
60°-70°	463.6	11.8
70°-80°	331.5	8.4
80°-90°	197.2	5.0
90°-100°	123.9	3.2
100°-110°	91.1	2.3
110°-120°	60.8	1.5
120°-130°	34.7	0.9
130°-140°	15.6	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°	901.1	22.9
0°-40°	1466.3	37.3
0°-60°	2612.7	66.4
0°-90°	3605.0	91.6
90°-120°	275.9	7.0
90°-150°	329.4	8.4
90°-180°	329.0	8.4
0°-180°	3934.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1171	1171	1171	1171	1171	
5°	1172	1169	1162	1172	1171	111
15°	1116	1120	1118	1131	1130	314
25°	1007	1020	1024	1041	1041	464
35°	867	888	904	923	928	542
45°	709	740	772	796	806	547
55°	541	583	629	663	673	484
65°	374	423	480	518	530	369
75°	203	263	326	368	384	217
85°	62	126	194	237	250	64
90°	17	79	144	188	200	12
95°	14	64	126	166	178	11
105°	10	41	96	131	143	10
115°	6	22	68	98	108	7
125°	4	4	41	68	76	4
135°	3	1	15	38	45	2
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°	1170.7	1170.7	1170.7	1170.7	1170.7
2.5°	1177.1	1173.2	1163.0	1173.2	1172.0
5°	1172.0	1169.4	1161.7	1172.0	1170.7
7.5°	1163.0	1163.0	1155.4	1168.1	1166.9
10°	1150.3	1152.8	1146.4	1159.2	1156.6
12.5°	1135.0	1138.8	1135.0	1146.4	1143.9
15°	1115.8	1119.7	1118.4	1131.1	1129.9
17.5°	1092.9	1100.5	1099.3	1110.7	1108.2
20°	1067.4	1075.0	1077.6	1089.1	1090.3
22.5°	1040.6	1048.3	1052.1	1067.4	1066.1
25°	1007.4	1020.2	1024.0	1040.6	1040.6
27.5°	975.6	989.6	997.2	1011.3	1012.5
30°	941.1	957.7	967.9	983.2	983.2
32.5°	902.9	922.0	936.0	952.6	956.4
35°	867.2	887.6	904.1	923.3	928.4
37.5°	828.9	851.9	871.0	892.7	896.5
40°	790.7	813.6	839.1	860.8	865.9
42.5°	748.6	777.9	804.7	828.9	836.6
45°	709.0	739.6	771.5	795.8	806.0
47.5°	667.0	701.4	737.1	763.9	771.5
50°	626.1	661.9	701.4	730.7	739.6
52.5°	582.8	621.0	665.7	696.3	707.8
55°	540.7	582.8	628.7	663.1	673.3
57.5°	499.9	543.3	593.0	627.4	638.9
60°	456.5	502.4	554.7	590.4	604.5
62.5°	415.7	462.9	519.0	554.7	567.5
65°	373.6	423.4	479.5	517.8	530.5
67.5°	331.6	383.8	440.0	482.0	492.2
70°	286.9	341.8	403.0	443.8	456.5
72.5°	246.1	301.0	364.7	406.8	419.6
75°	202.8	262.7	326.5	368.5	383.8
77.5°	165.8	225.7	289.5	334.1	345.6
80°	126.2	188.7	255.0	298.4	311.2
82.5°	91.8	155.6	223.2	266.5	279.3
85°	62.5	126.2	193.8	237.2	249.9
87.5°	38.3	102.0	167.1	210.4	223.2
90°	16.6	79.1	144.1	187.5	200.2
92.5°	15.3	70.1	133.9	176.0	187.5
95°	14.0	63.8	126.2	165.8	178.5
97.5°	12.8	58.7	118.6	156.9	169.6
100°	11.5	52.3	110.9	147.9	160.7
102.5°	10.2	45.9	103.3	139.0	151.8
105°	10.2	40.8	95.6	131.4	142.8
107.5°	8.9	35.7	88.0	122.4	133.9
110°	7.7	30.6	81.6	114.8	125.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.7	25.5	74.0	105.8	117.3
115°	6.4	21.7	67.6	98.2	108.4
117.5°	6.4	16.6	59.9	90.5	100.7
120°	5.1	11.5	53.6	82.9	91.8
122.5°	5.1	7.7	47.2	75.2	84.2
125°	3.8	3.8	40.8	67.6	76.5
127.5°	3.8	2.6	34.4	59.9	68.9
130°	3.8	2.6	28.1	52.3	59.9
132.5°	2.6	2.6	21.7	44.6	53.6
135°	2.6	1.3	15.3	38.3	44.6
137.5°	2.6	1.3	10.2	30.6	37.0
140°	1.3	1.3	5.1	24.2	30.6
142.5°	1.3	0.0	0.0	16.6	23.0
145°	1.3	0.0	0.0	10.2	15.3
147.5°	0.0	0.0	0.0	3.8	8.9
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	18.27	19.77	18.76	20.25	20.77	20.26	21.77	20.75	22.25	22.77
	3H	19.82	21.20	20.33	21.69	22.24	22.64	24.01	23.14	24.50	25.06
	4H	20.35	21.65	20.87	22.15	22.72	23.76	25.06	24.28	25.56	26.13
	6H	20.69	21.90	21.23	22.42	23.01	24.86	26.07	25.40	26.59	27.18
	8H	20.78	21.94	21.33	22.48	23.07	25.42	26.58	25.97	27.12	27.71
	12H	20.83	21.94	21.38	22.48	23.10	26.02	27.14	26.58	27.67	28.30
4H	2H	19.17	20.47	19.70	20.98	21.55	20.72	22.02	21.25	22.53	23.10
	3H	20.98	22.08	21.51	22.63	23.23	23.32	24.42	23.85	24.97	25.57
	4H	21.64	22.65	22.20	23.21	23.84	24.58	25.60	25.14	26.16	26.78
	6H	22.12	23.01	22.69	23.59	24.23	25.87	26.76	26.44	27.35	27.98
	8H	22.25	23.09	22.83	23.68	24.33	26.52	27.36	27.10	27.94	28.59
	12H	22.34	23.10	22.94	23.71	24.37	27.24	28.00	27.84	28.61	29.27
8H	4H	22.27	23.12	22.86	23.70	24.35	24.81	25.65	25.39	26.24	26.89
	6H	22.93	23.64	23.54	24.27	24.92	26.25	26.96	26.86	27.59	28.24
	8H	23.16	23.81	23.79	24.44	25.11	27.03	27.67	27.65	28.31	28.97
	12H	23.34	23.91	23.96	24.53	25.27	27.91	28.48	28.54	29.11	29.84
12H	4H	22.43	23.19	23.03	23.81	24.46	24.82	25.58	25.42	26.20	26.85
	6H	23.17	23.82	23.80	24.45	25.12	26.29	26.93	26.92	27.57	28.24
	8H	23.50	24.07	24.12	24.69	25.43	27.13	27.71	27.76	28.33	29.07