

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: P243363

Luminaire Tested: S123DRP-H1000D835-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243363
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-54)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H1000D835-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

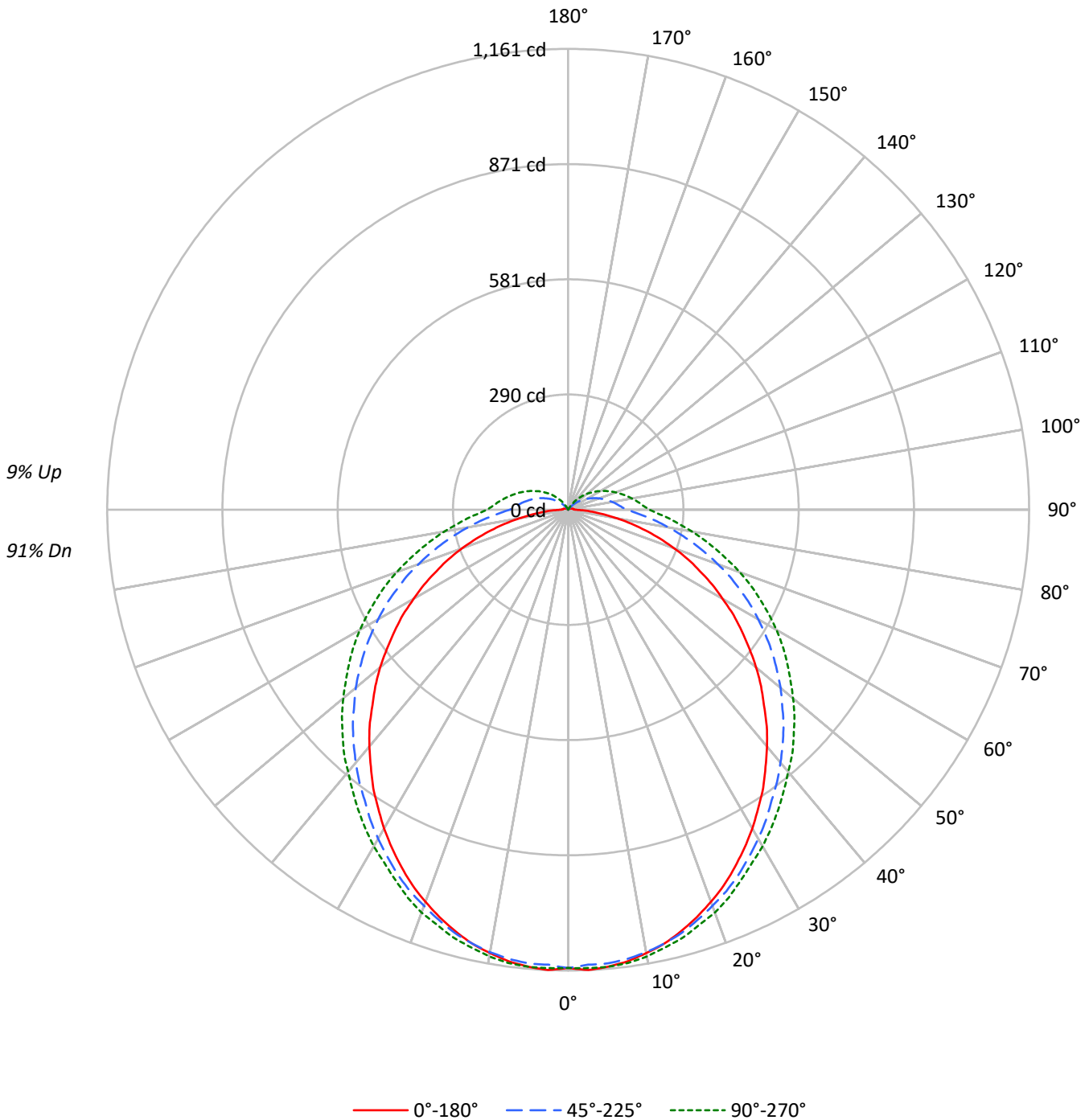
Lumens per Lamp: N/A
Luminaire Lumens: 3919.3 lumens
Efficiency: N/A
Efficacy: 124.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 31.5
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	91
1	105	100	95	90	101	96	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	91	83	77	71	78	73	68	74	69	65	69	66	62	60
3	86	75	66	60	83	73	65	58	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	45	42
5	72	59	50	43	70	57	49	42	54	47	41	51	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	60	47	38	32	44	37	32	42	36	31	40	34	30	28
8	57	44	35	29	55	43	34	29	41	33	28	39	32	27	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	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13996	13996	13996
5°	14038	13637	13631
10°	13908	13293	13217
15°	13716	12914	12763
20°	13454	12464	12304
25°	13154	12046	11773
30°	12818	11578	11324
35°	12480	11103	10878
40°	12109	10716	10452
45°	11700	10334	10096
50°	11357	9943	9726
55°	10936	9544	9362
60°	10496	9104	9009
65°	10035	8633	8576
70°	9510	8129	8155
75°	8718	7579	7656
80°	7715	7037	7219
85°	6854	6598	6886

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11700 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.6	2.8
10°-20°	312.6	8.0
20°-30°	468.1	11.9
30°-40°	560.1	14.3
40°-50°	587.3	15.0
50°-60°	552.2	14.1
60°-70°	462.1	11.8
70°-80°	331.6	8.5
80°-90°	198.6	5.1
90°-100°	125.9	3.2
100°-110°	92.8	2.4
110°-120°	62.1	1.6
120°-130°	35.8	0.9
130°-140°	16.5	0.4
140°-150°	3.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	890.3	22.7
0°-40°	1450.4	37.0
0°-60°	2589.9	66.1
0°-90°	3582.3	91.4
90°-120°	280.9	7.2
90°-150°	337.0	8.6
90°-180°	337.0	8.6
0°-180°	3919.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1155	1155	1155	1155	1155	
5°	1156	1155	1148	1157	1156	110
15°	1099	1107	1104	1119	1116	310
25°	993	1007	1015	1031	1030	457
35°	856	877	893	916	922	535
45°	697	732	767	794	803	539
55°	533	578	627	661	673	478
65°	366	420	477	519	532	363
75°	201	262	326	371	385	214
85°	61	125	195	240	255	63
90°	17	80	147	192	205	12
95°	13	65	128	169	182	11
105°	10	42	98	134	144	10
115°	6	22	69	100	111	7
125°	5	5	42	69	78	4
135°	2	1	18	40	47	2
145°	1	0	0	12	17	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°	1154.7	1154.7	1154.7	1154.7	1154.7
2.5°	1160.8	1157.1	1147.5	1158.3	1155.9
5°	1155.9	1154.7	1147.5	1157.1	1155.9
7.5°	1147.5	1147.5	1141.5	1152.3	1152.3
10°	1134.3	1137.9	1131.9	1143.9	1142.7
12.5°	1119.8	1124.6	1119.8	1133.1	1129.4
15°	1099.3	1106.6	1104.2	1118.6	1116.2
17.5°	1076.5	1084.9	1083.7	1098.1	1096.9
20°	1051.2	1062.0	1062.0	1076.5	1080.1
22.5°	1024.7	1036.7	1040.3	1054.8	1057.2
25°	993.4	1006.6	1015.1	1030.7	1029.5
27.5°	960.9	976.5	986.2	1003.0	1003.0
30°	927.2	945.2	957.3	975.3	978.9
32.5°	891.0	912.7	927.2	946.4	951.2
35°	856.1	876.6	893.4	916.3	922.3
37.5°	816.4	841.7	864.5	888.6	892.2
40°	779.1	806.7	832.0	857.3	862.1
42.5°	740.5	769.4	799.5	824.8	835.6
45°	697.2	732.1	767.0	793.5	803.1
47.5°	658.6	693.6	730.9	762.2	773.0
50°	617.7	653.8	698.4	728.5	739.3
52.5°	575.6	615.3	662.3	694.8	705.6
55°	533.4	578.0	627.3	661.0	673.1
57.5°	493.7	538.2	590.0	627.3	640.6
60°	449.1	498.5	552.7	591.2	605.7
62.5°	409.4	460.0	516.6	555.1	569.5
65°	366.0	420.2	476.8	519.0	532.2
67.5°	326.3	379.3	440.7	482.8	497.3
70°	284.2	339.6	401.0	444.3	460.0
72.5°	242.0	301.0	363.6	408.2	421.4
75°	201.1	262.5	326.3	370.9	385.3
77.5°	162.6	224.0	290.2	334.7	350.4
80°	124.0	187.8	256.5	301.0	316.7
82.5°	90.3	155.3	225.2	268.5	283.0
85°	61.4	125.2	195.1	239.6	255.3
87.5°	36.1	101.1	168.6	213.1	226.4
90°	16.9	79.5	146.9	191.5	204.7
92.5°	15.7	71.0	136.1	178.2	191.5
95°	13.2	65.0	127.6	168.6	181.8
97.5°	13.2	59.0	120.4	160.1	172.2
100°	12.0	53.0	113.2	150.5	162.6
102.5°	10.8	47.0	104.8	142.1	154.1
105°	9.6	42.1	97.5	133.7	144.5
107.5°	8.4	36.1	90.3	125.2	136.1
110°	8.4	31.3	83.1	116.8	127.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.2	26.5	75.9	108.4	119.2
115°	6.0	21.7	68.6	99.9	110.8
117.5°	6.0	16.9	61.4	92.7	102.3
120°	6.0	13.2	55.4	84.3	93.9
122.5°	4.8	8.4	49.4	77.1	86.7
125°	4.8	4.8	42.1	68.6	78.3
127.5°	3.6	2.4	36.1	61.4	69.8
130°	3.6	2.4	30.1	54.2	62.6
132.5°	2.4	2.4	24.1	47.0	55.4
135°	2.4	1.2	18.1	39.7	47.0
137.5°	2.4	1.2	12.0	32.5	39.7
140°	1.2	1.2	6.0	25.3	32.5
142.5°	1.2	0.0	1.2	19.3	25.3
145°	1.2	0.0	0.0	12.0	16.9
147.5°	1.2	0.0	0.0	6.0	10.8
150°	1.2	0.0	0.0	0.0	3.6
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	18.20	19.70	18.70	20.19	20.71	20.27	21.77	20.76	22.26	22.78
	3H	19.76	21.13	20.26	21.62	22.18	22.67	24.04	23.17	24.53	25.09
	4H	20.28	21.58	20.81	22.09	22.67	23.78	25.08	24.31	25.59	26.17
	6H	20.62	21.83	21.16	22.35	22.94	24.91	26.12	25.45	26.64	27.23
	8H	20.71	21.87	21.26	22.41	23.01	25.47	26.63	26.02	27.18	27.77
	12H	20.76	21.87	21.31	22.41	23.03	26.09	27.20	26.65	27.74	28.37
4H	2H	19.12	20.42	19.64	20.93	21.50	20.72	22.02	21.25	22.53	23.11
	3H	20.92	22.03	21.46	22.58	23.18	23.33	24.44	23.87	24.99	25.59
	4H	21.59	22.60	22.15	23.16	23.79	24.61	25.62	25.17	26.18	26.81
	6H	22.06	22.95	22.64	23.54	24.18	25.91	26.80	26.49	27.39	28.03
	8H	22.19	23.03	22.78	23.62	24.28	26.57	27.41	27.15	28.00	28.65
	12H	22.28	23.04	22.89	23.66	24.32	27.30	28.06	27.90	28.68	29.34
8H	4H	22.23	23.07	22.82	23.66	24.32	24.83	25.67	25.41	26.26	26.91
	6H	22.89	23.60	23.51	24.23	24.89	26.29	27.00	26.91	27.63	28.29
	8H	23.12	23.76	23.75	24.40	25.08	27.08	27.72	27.70	28.36	29.03
	12H	23.29	23.86	23.92	24.49	25.23	27.97	28.54	28.60	29.17	29.91
12H	4H	22.39	23.16	23.00	23.77	24.43	24.84	25.60	25.45	26.22	26.88
	6H	23.14	23.78	23.77	24.42	25.09	26.33	26.97	26.96	27.61	28.29
	8H	23.46	24.04	24.09	24.66	25.40	27.18	27.75	27.81	28.38	29.12