

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P646681

Luminaire Tested: S123RDR-S340D930-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646681
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2)
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-S340D930-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC STANDARD LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

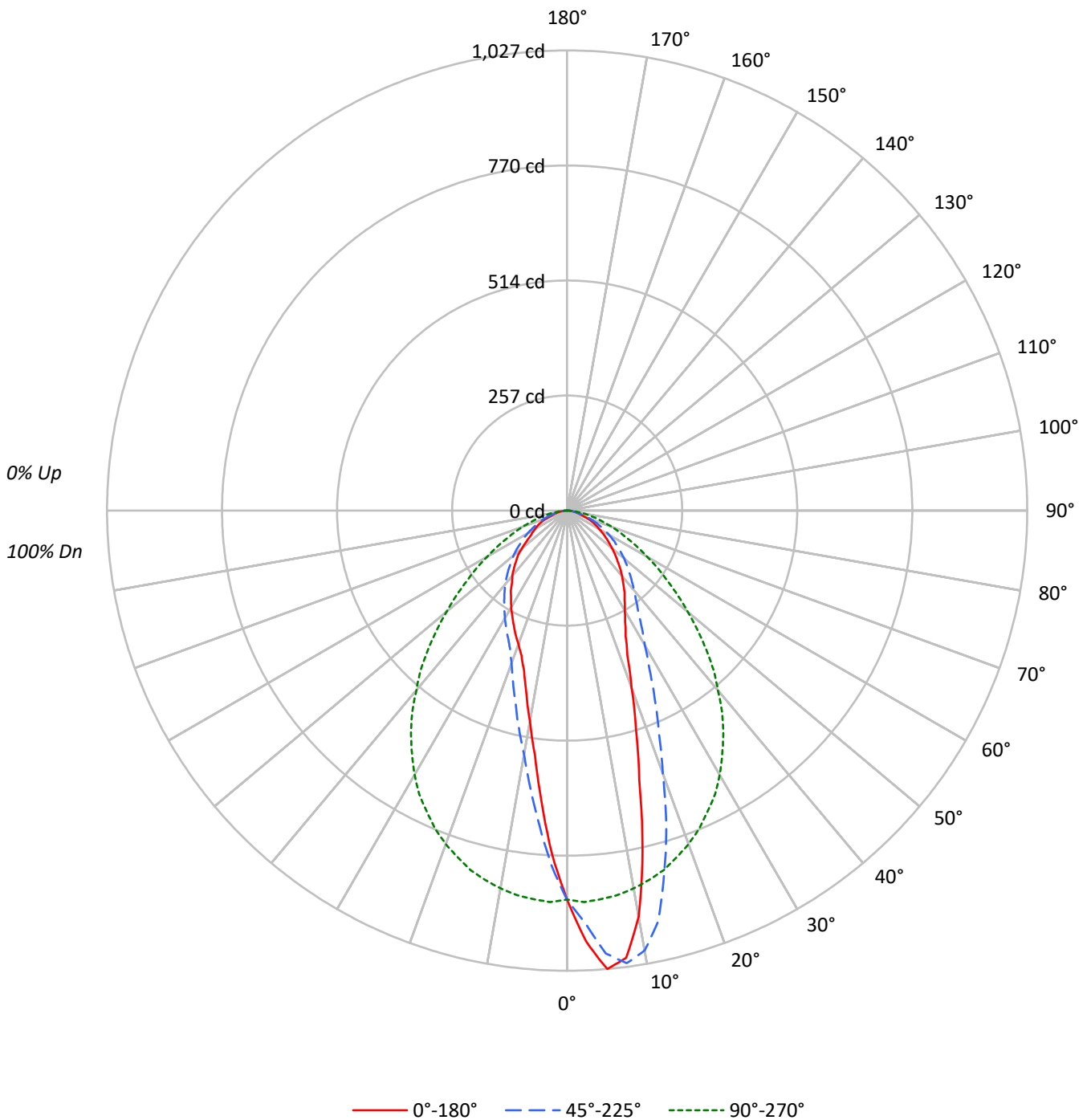
Lumens per Lamp: N/A
Luminaire Lumens: 1150.3 lumens
Efficiency: N/A
Efficacy: 96.7 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 11.9
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89					87				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78					76				
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69					67				
4	88	77	69	64	85	76	69	63	73	67	62	71	66	62	69	65	61					59				
5	82	70	62	56	80	69	62	56	67	61	56	65	60	55	63	58	54					53				
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49					47				
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45					43				
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41					39				
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38					36				
10	60	47	40	36	58	47	40	35	46	40	35	45	39	35	44	39	35					33				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	10461	10461	10461	10461	10461
5°	12422	12000	10528	8538	7901
10°	11254	12195	10474	6760	5850
15°	7749	10445	10365	5551	4627
20°	5391	8010	10157	4651	4067
25°	4108	6148	9853	4155	3748
30°	3576	4833	9475	3864	3471
35°	3283	4069	8939	3602	3220
40°	2995	3651	8236	3382	2990
45°	2706	3342	7479	3142	2760
50°	2456	3102	6587	2922	2476
55°	2220	2849	5729	2670	2124
60°	1991	2591	4976	2446	2007
65°	1836	2304	4282	2173	1899
70°	1494	1969	3738	1969	1543
75°	1308	1592	3166	1639	1359
80°	1187	1332	2595	1381	1284
85°	1078	1134	1963	1230	1175

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 7891 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	6.9
10°-20°	183.1	15.9
20°-30°	210.0	18.3
30°-40°	206.9	18.0
40°-50°	182.4	15.9
50°-60°	140.3	12.2
60°-70°	92.3	8.0
70°-80°	44.8	3.9
80°-90°	11.3	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	472.3	41.1
0°-40°	679.2	59.0
0°-60°	1001.9	87.1
0°-90°	1150.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1150.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	868	868	868	868	868	
5°	1027	992	870	706	653	94
15°	621	837	831	445	371	175
25°	309	462	741	312	282	146
35°	223	277	608	245	219	139
45°	159	196	439	184	162	123
55°	106	136	273	127	101	95
65°	64	81	150	76	67	63
75°	28	34	68	35	29	30
85°	8	8	14	9	8	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	868.2	868.2	868.2	868.2	868.2	868.2	868.2	868.2	868.2	868.2	868.2
2.5°	962.2	956.2	954.4	952.2	948.7	935.9	921.3	922.7	920.9	909.9	903.8
5°	1027.0	1027.7	1025.9	1024.5	1018.5	1002.8	992.1	985.7	972.2	951.5	945.1
7.5°	1007.1	1018.5	1020.6	1023.1	1026.3	1022.7	1018.8	1016.3	1005.3	982.9	972.5
10°	919.8	919.1	932.0	942.3	970.0	989.6	996.7	1007.1	1016.3	1000.7	989.3
12.5°	777.5	778.5	820.5	820.5	856.5	906.3	938.4	960.1	999.9	1001.0	994.2
15°	621.2	638.6	676.0	683.8	730.1	797.0	837.3	882.1	959.4	983.6	982.1
17.5°	510.1	517.6	553.5	563.9	604.8	680.6	736.2	790.3	898.5	949.4	958.7
20°	420.4	427.2	453.2	461.0	502.3	574.5	624.7	683.1	824.8	902.8	919.1
22.5°	351.0	364.2	381.6	393.7	417.2	490.9	534.0	589.9	739.4	850.4	869.7
25°	309.0	315.0	330.0	335.7	364.2	412.9	462.4	511.5	663.5	784.9	818.8
27.5°	280.5	282.3	293.3	298.3	315.4	360.6	396.2	441.8	586.3	717.7	757.2
30°	257.0	260.2	268.8	269.8	284.8	316.8	347.4	389.4	518.7	652.5	693.1
32.5°	238.9	240.6	247.8	249.9	259.5	284.8	309.7	340.3	456.0	584.5	631.2
35°	223.2	223.6	228.9	231.7	240.3	261.3	276.6	302.2	405.8	528.3	569.2
37.5°	205.4	207.9	211.8	214.3	221.8	238.9	252.7	272.7	359.5	474.9	513.0
40°	190.4	192.6	197.2	198.3	205.0	220.7	232.1	249.9	319.7	423.6	462.4
42.5°	175.5	176.9	181.5	183.7	191.2	203.6	213.9	227.8	288.0	378.0	416.1
45°	158.8	162.3	167.3	168.4	175.5	188.3	196.1	209.0	259.5	338.5	372.4
47.5°	144.9	146.7	150.9	152.7	160.9	172.3	180.5	191.5	234.9	302.6	335.7
50°	131.0	131.7	135.6	138.1	144.5	157.7	165.5	175.5	212.5	273.4	296.5
52.5°	117.8	119.6	123.5	125.3	129.6	143.1	150.2	160.5	191.2	243.5	266.6
55°	105.7	106.8	109.6	111.8	116.8	128.5	135.6	144.5	172.6	216.1	236.4
57.5°	94.3	95.8	97.9	99.7	104.3	114.6	121.7	130.6	155.2	191.2	206.8
60°	82.6	84.4	86.9	87.6	91.8	101.1	107.5	115.3	137.4	168.0	181.9
62.5°	74.0	74.4	76.5	77.6	80.1	87.6	94.3	101.8	121.4	145.6	157.0
65°	64.4	65.5	66.6	67.3	69.4	75.8	80.8	86.5	105.7	126.7	134.6
67.5°	54.5	55.5	57.3	58.0	59.8	64.1	68.3	74.0	90.1	107.9	115.0
70°	42.4	42.4	45.2	46.6	49.5	52.7	55.9	60.9	74.8	90.1	95.4
72.5°	34.5	34.9	35.2	35.2	37.7	43.1	44.9	48.1	59.1	73.7	78.3
75°	28.1	28.5	28.8	29.2	29.5	31.3	34.2	37.0	45.2	55.9	60.2
77.5°	22.4	22.8	23.1	23.1	23.9	24.6	25.3	26.7	32.4	40.2	43.8
80°	17.1	17.4	17.8	17.8	18.2	18.9	19.2	19.9	21.7	27.1	28.8
82.5°	12.5	12.5	12.5	12.8	13.2	13.2	13.9	13.9	15.0	16.4	17.4
85°	7.8	7.8	8.2	8.2	8.2	8.5	8.2	8.5	8.9	9.3	10.0
87.5°	3.6	3.2	3.6	3.6	3.6	3.9	3.9	3.9	3.9	4.3	4.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	868.2	868.2	868.2	868.2	868.2	868.2	868.2	868.2	868.2	868.2	868.2
2.5°	887.1	874.6	853.6	840.5	835.5	820.2	805.6	793.5	787.4	786.7	775.7
5°	904.5	870.4	826.9	790.6	782.1	755.4	720.9	705.9	686.3	678.5	669.2
7.5°	918.8	865.4	801.3	746.5	730.5	690.2	646.1	626.5	611.6	588.1	574.2
10°	928.7	856.1	770.0	699.1	676.4	629.4	576.0	552.5	538.6	511.5	500.5
12.5°	932.7	844.4	738.7	650.0	630.1	574.2	521.9	497.7	477.0	452.4	441.8
15°	931.2	830.9	706.6	604.8	579.9	523.3	467.8	445.0	425.8	401.2	387.3
17.5°	921.6	811.6	671.7	561.0	537.2	478.8	422.5	401.5	384.5	360.6	349.9
20°	905.6	792.1	641.1	521.2	494.1	438.2	385.2	362.7	347.8	335.0	327.1
22.5°	883.5	768.9	603.7	481.6	458.1	401.9	351.0	332.8	323.9	313.6	307.9
25°	850.1	741.1	569.9	448.5	425.0	369.1	324.7	312.5	303.6	296.9	290.8
27.5°	814.1	714.4	536.1	415.1	393.0	339.6	304.0	294.8	286.9	278.4	273.0
30°	772.5	681.0	504.1	385.5	364.2	315.8	286.2	277.7	271.3	262.0	256.7
32.5°	723.3	644.3	474.2	357.0	337.1	295.1	269.8	260.6	255.2	246.3	241.0
35°	672.4	607.7	441.4	330.7	312.5	277.0	253.8	244.9	239.2	230.3	225.0
37.5°	622.6	568.5	412.2	307.6	291.2	258.8	237.1	229.6	224.3	215.0	208.6
40°	569.9	523.6	383.7	285.9	270.5	242.8	221.8	215.0	207.9	199.7	193.3
42.5°	514.7	484.1	357.4	266.6	252.4	227.1	206.5	199.3	193.3	183.7	180.8
45°	463.1	438.9	329.6	246.3	234.9	211.5	191.5	184.4	177.6	169.4	166.6
47.5°	417.2	394.8	304.4	228.5	217.1	196.1	176.6	169.1	164.1	157.7	153.4
50°	369.9	351.4	276.6	211.1	200.4	179.8	160.9	155.9	150.2	142.4	139.2
52.5°	325.7	311.5	253.8	194.4	184.4	165.9	146.7	141.7	136.3	129.6	124.9
55°	286.9	272.7	227.8	175.5	168.0	150.6	133.5	127.1	122.8	115.0	109.3
57.5°	247.0	240.3	202.9	159.8	152.7	135.3	120.0	115.0	109.6	101.1	95.4
60°	214.3	206.5	179.8	142.7	136.0	121.4	106.4	101.5	96.5	88.3	85.8
62.5°	183.3	177.6	157.3	126.7	121.0	106.8	93.6	89.0	84.0	78.7	76.9
65°	155.2	150.2	134.9	110.4	105.7	93.3	81.2	76.2	73.0	70.5	68.7
67.5°	128.9	126.0	114.3	95.0	91.5	80.5	69.8	65.9	64.1	61.2	59.8
70°	105.0	106.1	95.4	81.2	77.2	68.3	59.1	55.9	53.8	51.3	48.4
72.5°	85.8	85.4	79.0	66.2	63.4	56.2	49.1	47.0	44.5	39.5	36.3
75°	66.6	68.0	61.9	54.8	52.0	44.9	38.1	35.2	32.8	31.0	29.9
77.5°	50.9	51.6	48.8	42.0	39.5	33.5	28.1	26.7	25.6	24.6	24.2
80°	36.3	37.4	34.5	30.3	28.1	23.1	20.3	19.9	19.6	18.9	18.5
82.5°	23.5	24.9	23.5	18.9	17.8	15.3	14.6	14.6	14.2	13.9	13.5
85°	12.8	14.2	13.5	11.0	10.3	9.6	9.3	8.9	8.9	8.9	8.9
87.5°	5.0	6.8	5.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	868.2	868.2	868.2
2.5°	773.2	769.6	768.2
5°	666.7	655.7	653.2
7.5°	569.9	565.3	550.0
10°	498.7	484.5	478.1
12.5°	434.6	421.5	419.3
15°	383.4	374.1	370.9
17.5°	349.6	343.2	339.2
20°	324.7	320.0	317.2
22.5°	305.8	302.2	300.1
25°	289.1	283.7	281.9
27.5°	272.0	267.3	265.6
30°	255.9	252.0	249.5
32.5°	239.2	234.6	233.2
35°	223.2	220.4	218.9
37.5°	207.5	204.0	201.8
40°	192.9	191.2	190.1
42.5°	179.8	176.6	176.2
45°	165.9	162.7	162.0
47.5°	152.7	149.9	149.5
50°	138.8	134.9	132.1
52.5°	122.1	118.5	116.0
55°	107.1	103.2	101.1
57.5°	94.7	92.9	91.8
60°	85.1	84.0	83.3
62.5°	76.5	75.5	75.5
65°	68.7	67.6	66.6
67.5°	59.1	57.0	56.6
70°	47.3	44.1	43.8
72.5°	36.0	35.6	34.9
75°	29.9	29.2	29.2
77.5°	24.2	23.5	23.5
80°	18.5	18.2	18.5
82.5°	13.5	13.5	13.2
85°	8.9	8.5	8.5
87.5°	4.3	4.3	4.3
90°	0.0	0.0	0.0

(END OF REPORT)