

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: P646676

Luminaire Tested: S123RDR-S340D830-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646676
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-S340D830-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC STANDARD LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

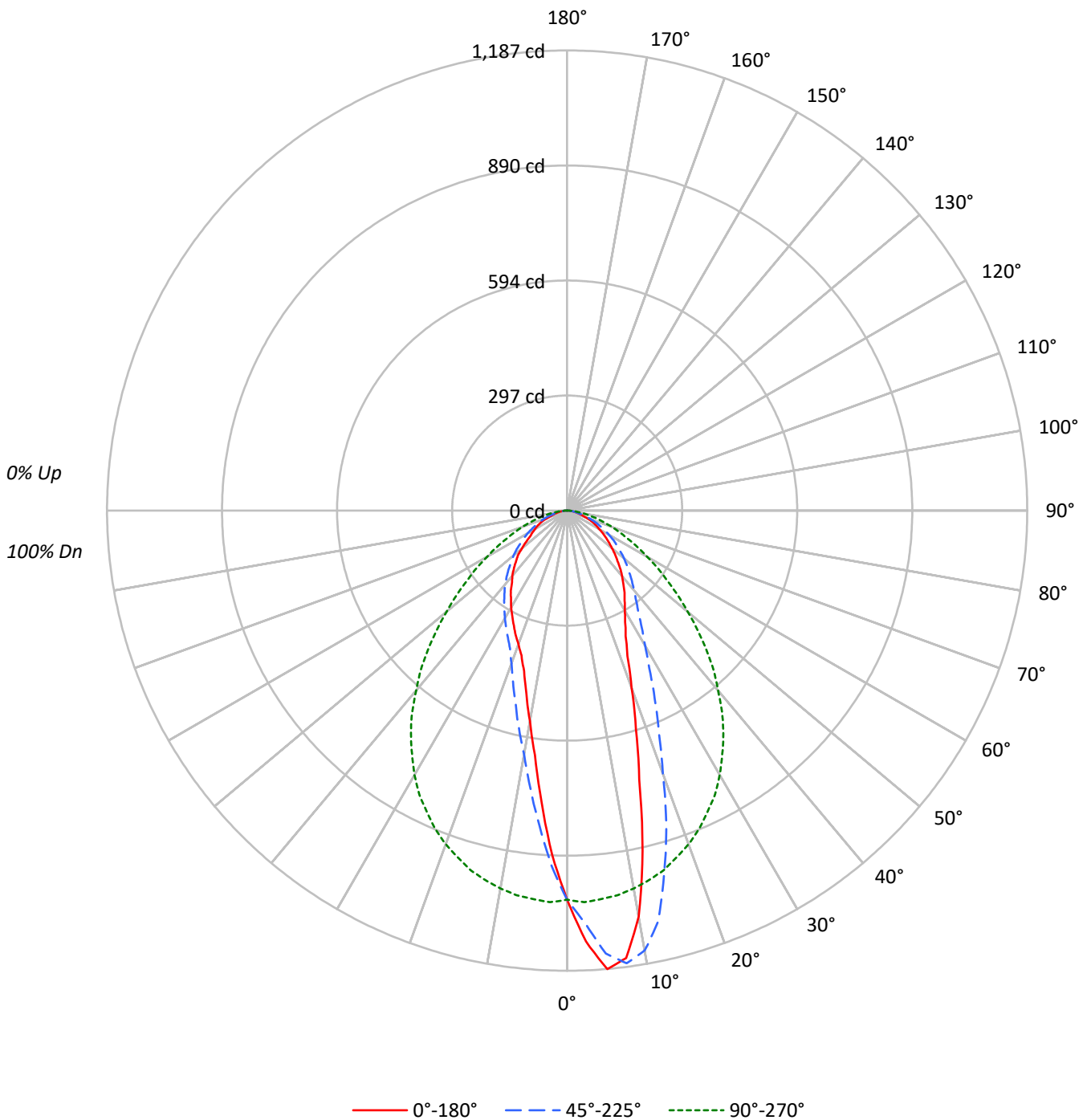
Lumens per Lamp: N/A
Luminaire Lumens: 1329.8 lumens
Efficiency: N/A
Efficacy: 111.7 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

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°	12094	12094	12094	12094	12094
5°	14361	13873	12170	9871	9134
10°	13011	14098	12109	7815	6762
15°	8958	12074	11981	6417	5349
20°	6232	9260	11742	5378	4702
25°	4749	7107	11391	4803	4333
30°	4134	5589	10954	4466	4014
35°	3795	4704	10333	4164	3723
40°	3464	4220	9522	3910	3457
45°	3127	3865	8646	3633	3190
50°	2838	3588	7614	3380	2862
55°	2567	3294	6621	3086	2456
60°	2301	2995	5752	2827	2321
65°	2124	2663	4952	2512	2195
70°	1726	2276	4319	2276	1783
75°	1513	1839	3659	1895	1569
80°	1374	1540	2998	1596	1485
85°	1258	1313	2281	1424	1369

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 9123 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.5	6.9
10°-20°	211.7	15.9
20°-30°	242.8	18.3
30°-40°	239.2	18.0
40°-50°	210.8	15.9
50°-60°	162.3	12.2
60°-70°	106.7	8.0
70°-80°	51.8	3.9
80°-90°	13.1	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°	546.0	41.1
0°-40°	785.2	59.0
0°-60°	1158.2	87.1
0°-90°	1329.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1329.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1004	1004	1004	1004	1004	
5°	1187	1147	1006	816	755	108
15°	718	968	960	514	429	203
25°	357	535	857	361	326	169
35°	258	320	702	283	253	161
45°	184	227	507	213	187	142
55°	122	157	315	147	117	110
65°	74	93	174	88	77	73
75°	32	40	79	41	34	35
85°	9	10	16	10	10	10
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°	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7
2.5°	1112.4	1105.4	1103.3	1100.9	1096.7	1081.9	1065.1	1066.7	1064.6	1051.9	1044.9
5°	1187.3	1188.1	1186.0	1184.4	1177.4	1159.3	1147.0	1139.5	1123.9	1100.0	1092.6
7.5°	1164.2	1177.4	1179.9	1182.8	1186.5	1182.3	1177.8	1174.9	1162.2	1136.3	1124.3
10°	1063.4	1062.6	1077.4	1089.3	1121.4	1144.1	1152.3	1164.2	1174.9	1156.8	1143.7
12.5°	898.8	900.0	948.6	948.6	990.2	1047.8	1084.8	1109.9	1156.0	1157.2	1149.4
15°	718.1	738.3	781.5	790.6	844.1	921.4	967.9	1019.8	1109.1	1137.1	1135.4
17.5°	589.7	598.4	639.9	651.9	699.2	786.9	851.1	913.6	1038.7	1097.6	1108.3
20°	486.0	493.8	523.9	532.9	580.7	664.2	722.2	789.7	953.5	1043.7	1062.6
22.5°	405.8	421.0	441.2	455.2	482.3	567.5	617.3	681.9	854.8	983.2	1005.4
25°	357.2	364.2	381.5	388.1	421.0	477.4	534.6	591.4	767.1	907.4	946.5
27.5°	324.3	326.3	339.1	344.9	364.6	416.9	458.0	510.7	677.8	829.7	875.3
30°	297.1	300.8	310.7	311.9	329.2	366.3	401.7	450.2	599.6	754.3	801.3
32.5°	276.1	278.2	286.4	288.9	300.0	329.2	358.0	393.4	527.2	675.7	729.7
35°	258.0	258.4	264.6	267.9	277.8	302.1	319.8	349.4	469.2	610.7	658.0
37.5°	237.5	240.3	244.9	247.7	256.4	276.1	292.2	315.2	415.7	549.0	593.0
40°	220.2	222.6	228.0	229.2	237.0	255.2	268.3	288.9	369.6	489.7	534.6
42.5°	202.9	204.5	209.9	212.4	221.0	235.4	247.3	263.4	332.9	437.1	481.1
45°	183.5	187.7	193.4	194.7	202.9	217.7	226.8	241.6	300.0	391.4	430.5
47.5°	167.5	169.6	174.5	176.5	186.0	199.2	208.6	221.4	271.6	349.8	388.1
50°	151.4	152.3	156.8	159.7	167.1	182.3	191.4	202.9	245.7	316.1	342.8
52.5°	136.2	138.3	142.8	144.9	149.8	165.4	173.7	185.6	221.0	281.5	308.2
55°	122.2	123.5	126.8	129.2	135.0	148.6	156.8	167.1	199.6	249.8	273.3
57.5°	109.1	110.7	113.2	115.2	120.6	132.5	140.7	151.0	179.4	221.0	239.1
60°	95.5	97.5	100.4	101.2	106.2	116.9	124.3	133.3	158.9	194.2	210.3
62.5°	85.6	86.0	88.5	89.7	92.6	101.2	109.1	117.7	140.3	168.3	181.5
65°	74.5	75.7	77.0	77.8	80.2	87.7	93.4	100.0	122.2	146.5	155.6
67.5°	63.0	64.2	66.3	67.1	69.1	74.1	79.0	85.6	104.1	124.7	132.9
70°	49.0	49.0	52.3	53.9	57.2	60.9	64.6	70.4	86.4	104.1	110.3
72.5°	39.9	40.3	40.7	40.7	43.6	49.8	51.9	55.6	68.3	85.2	90.5
75°	32.5	32.9	33.3	33.7	34.2	36.2	39.5	42.8	52.3	64.6	69.5
77.5°	25.9	26.3	26.7	26.7	27.6	28.4	29.2	30.9	37.4	46.5	50.6
80°	19.8	20.2	20.6	20.6	21.0	21.8	22.2	23.0	25.1	31.3	33.3
82.5°	14.4	14.4	14.4	14.8	15.2	15.2	16.0	16.0	17.3	18.9	20.2
85°	9.1	9.1	9.5	9.5	9.5	9.9	9.5	9.9	10.3	10.7	11.5
87.5°	4.1	3.7	4.1	4.1	4.1	4.5	4.5	4.5	4.5	4.9	4.9
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°	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7	1003.7
2.5°	1025.5	1011.1	986.9	971.6	965.9	948.2	931.3	917.3	910.3	909.5	896.7
5°	1045.7	1006.2	956.0	914.0	904.1	873.3	833.4	816.1	793.4	784.4	773.7
7.5°	1062.2	1000.4	926.4	863.0	844.5	798.0	746.9	724.3	707.0	679.9	663.8
10°	1073.7	989.7	890.2	808.3	781.9	727.6	665.9	638.7	622.7	591.4	578.6
12.5°	1078.2	976.2	853.9	751.5	728.4	663.8	603.3	575.3	551.5	523.1	510.7
15°	1076.6	960.5	816.9	699.2	670.4	605.0	540.8	514.4	492.2	463.8	447.8
17.5°	1065.5	938.3	776.6	648.6	621.0	553.5	488.5	464.2	444.5	416.9	404.5
20°	1046.9	915.7	741.2	602.5	571.2	506.6	445.3	419.4	402.1	387.3	378.2
22.5°	1021.4	888.9	698.0	556.8	529.6	464.6	405.8	384.8	374.5	362.6	356.0
25°	982.7	856.8	658.9	518.5	491.4	426.8	375.3	361.3	351.0	343.2	336.2
27.5°	941.2	826.0	619.8	479.9	454.3	392.6	351.5	340.8	331.7	321.8	315.6
30°	893.0	787.3	582.7	445.7	421.0	365.0	330.9	321.0	313.6	302.9	296.7
32.5°	836.2	744.9	548.2	412.8	389.7	341.2	311.9	301.2	295.1	284.8	278.6
35°	777.4	702.5	510.3	382.3	361.3	320.2	293.4	283.1	276.6	266.3	260.1
37.5°	719.8	657.2	476.6	355.6	336.6	299.2	274.1	265.4	259.3	248.6	241.2
40°	658.9	605.4	443.6	330.5	312.8	280.7	256.4	248.6	240.3	230.9	223.5
42.5°	595.1	559.7	413.2	308.2	291.8	262.6	238.7	230.5	223.5	212.4	209.1
45°	535.4	507.4	381.1	284.8	271.6	244.5	221.4	213.2	205.4	195.9	192.6
47.5°	482.3	456.4	351.9	264.2	251.0	226.8	204.1	195.5	189.7	182.3	177.4
50°	427.6	406.2	319.8	244.0	231.7	207.8	186.0	180.3	173.7	164.6	160.9
52.5°	376.6	360.1	293.4	224.7	213.2	191.8	169.6	163.8	157.6	149.8	144.4
55°	331.7	315.2	263.4	202.9	194.2	174.1	154.3	146.9	142.0	132.9	126.3
57.5°	285.6	277.8	234.6	184.8	176.5	156.4	138.7	132.9	126.8	116.9	110.3
60°	247.7	238.7	207.8	165.0	157.2	140.3	123.0	117.3	111.5	102.1	99.2
62.5°	211.9	205.4	181.9	146.5	139.9	123.5	108.2	102.9	97.1	90.9	88.9
65°	179.4	173.7	156.0	127.6	122.2	107.8	93.8	88.1	84.4	81.5	79.4
67.5°	149.0	145.7	132.1	109.9	105.8	93.0	80.7	76.1	74.1	70.8	69.1
70°	121.4	122.6	110.3	93.8	89.3	79.0	68.3	64.6	62.1	59.3	56.0
72.5°	99.2	98.8	91.4	76.5	73.3	65.0	56.8	54.3	51.4	45.7	42.0
75°	77.0	78.6	71.6	63.4	60.1	51.9	44.0	40.7	37.9	35.8	34.6
77.5°	58.8	59.7	56.4	48.6	45.7	38.7	32.5	30.9	29.6	28.4	28.0
80°	42.0	43.2	39.9	35.0	32.5	26.7	23.5	23.0	22.6	21.8	21.4
82.5°	27.2	28.8	27.2	21.8	20.6	17.7	16.9	16.9	16.5	16.0	15.6
85°	14.8	16.5	15.6	12.8	11.9	11.1	10.7	10.3	10.3	10.3	10.3
87.5°	5.8	7.8	6.6	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
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):

	160°	170°	180°
0°	1003.7	1003.7	1003.7
2.5°	893.9	889.7	888.1
5°	770.8	758.1	755.2
7.5°	658.9	653.5	635.8
10°	576.6	560.1	552.7
12.5°	502.5	487.3	484.8
15°	443.2	432.5	428.8
17.5°	404.1	396.7	392.2
20°	375.3	370.0	366.7
22.5°	353.5	349.4	346.9
25°	334.2	328.0	325.9
27.5°	314.4	309.1	307.0
30°	295.9	291.4	288.5
32.5°	276.6	271.2	269.6
35°	258.0	254.7	253.1
37.5°	239.9	235.8	233.3
40°	223.1	221.0	219.8
42.5°	207.8	204.1	203.7
45°	191.8	188.1	187.2
47.5°	176.5	173.3	172.8
50°	160.5	156.0	152.7
52.5°	141.2	137.0	134.2
55°	123.9	119.3	116.9
57.5°	109.5	107.4	106.2
60°	98.4	97.1	96.3
62.5°	88.5	87.2	87.2
65°	79.4	78.2	77.0
67.5°	68.3	65.8	65.4
70°	54.7	51.0	50.6
72.5°	41.6	41.2	40.3
75°	34.6	33.7	33.7
77.5°	28.0	27.2	27.2
80°	21.4	21.0	21.4
82.5°	15.6	15.6	15.2
85°	10.3	9.9	9.9
87.5°	4.9	4.9	4.9
90°	0.0	0.0	0.0

(END OF REPORT)