

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P243396

Luminaire Tested: **S123RDR-H560D835-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243396
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-64)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDR-H560D835-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1959.8 lumens
Efficiency: N/A
Efficacy: 113.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

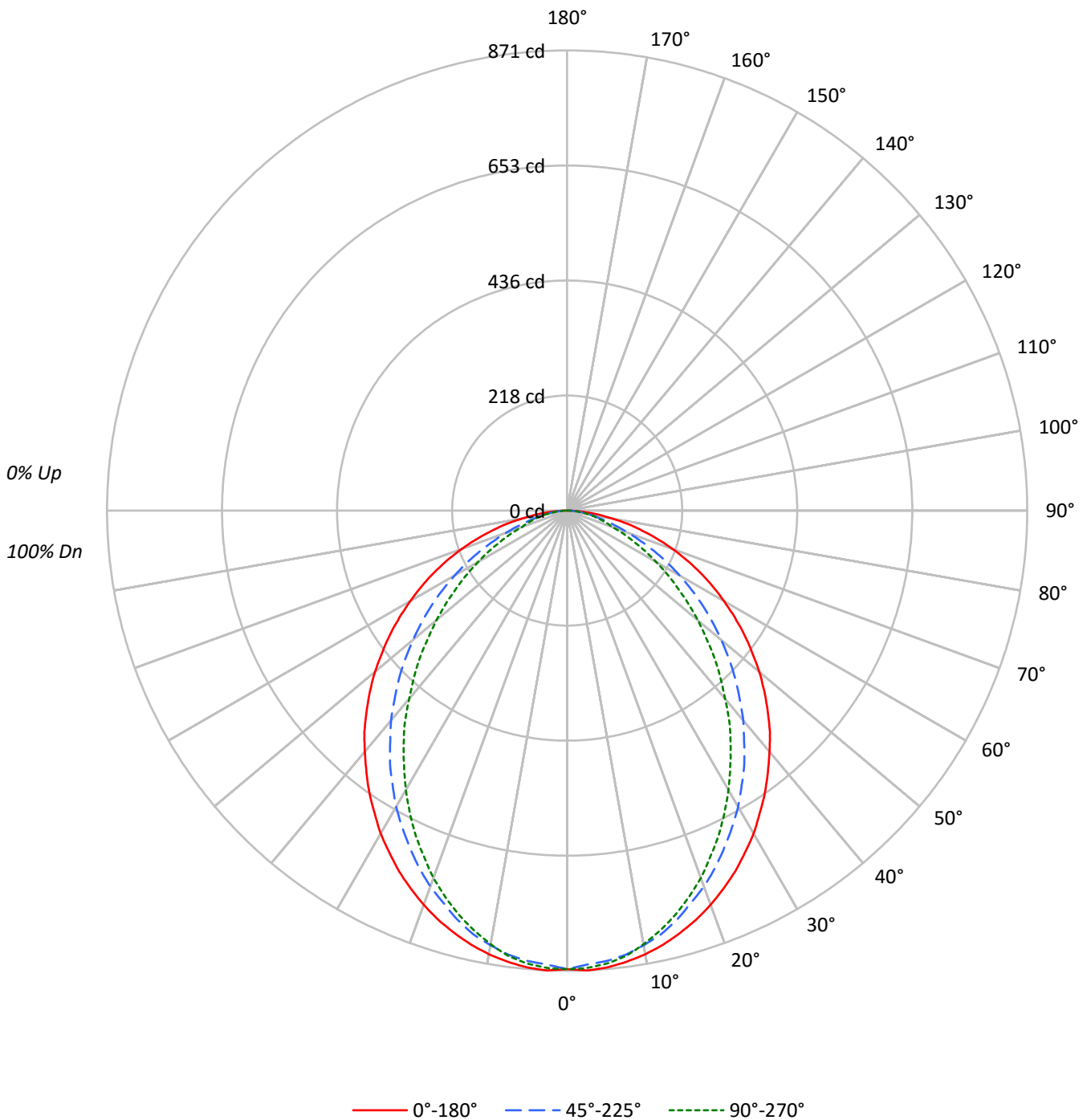
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86
2	101	93	87	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
5	78	66	58	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42
7	67	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10521	10521	10521
5°	10561	10415	10473
10°	10495	10282	10258
15°	10383	10064	9939
20°	10242	9769	9545
25°	10075	9416	9077
30°	9881	9060	8548
35°	9658	8652	7980
40°	9431	8207	7353
45°	9200	7714	6766
50°	8952	7179	6085
55°	8650	6621	5395
60°	8308	5964	4703
65°	7973	5220	4015
70°	7513	4370	3214
75°	6931	3466	3058
80°	6052	3071	2792
85°	5104	2684	2601



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.7	4.2
10°-20°	227.3	11.6
20°-30°	327.3	16.7
30°-40°	368.6	18.8
40°-50°	352.2	18.0
50°-60°	288.0	14.7
60°-70°	193.4	9.9
70°-80°	96.4	4.9
80°-90°	24.9	1.3
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°	636.3	32.5
0°-40°	1004.9	51.3
0°-60°	1645.0	83.9
0°-90°	1959.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1959.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	868	868	868	868	868	
5°	868	865	856	863	861	82
15°	827	821	802	797	792	233
25°	753	737	704	689	679	347
35°	653	627	585	552	539	408
45°	537	505	450	411	395	414
55°	409	373	313	270	255	366
65°	278	239	182	149	140	275
75°	148	113	74	67	65	157
85°	37	21	19	18	19	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	868.0	868.0	868.0	868.0	868.0	868.0	868.0	868.0	868.0	868.0	868.0
2.5°	871.4	869.4	866.7	867.4	868.0	868.7	868.7	868.0	866.0	863.4	860.0
5°	868.0	866.0	863.4	863.4	864.7	864.7	864.7	864.0	862.0	859.4	856.0
7.5°	861.4	860.0	856.7	857.4	858.0	858.0	858.0	857.4	854.7	851.4	848.0
10°	852.7	850.7	848.0	848.0	848.7	848.7	848.7	847.4	844.0	840.0	835.4
12.5°	841.4	839.4	836.7	836.7	836.7	836.7	836.7	834.7	829.4	825.4	821.4
15°	827.4	825.4	822.7	822.7	822.0	821.4	820.0	816.7	812.0	807.3	802.0
17.5°	812.0	809.3	806.0	805.3	804.7	804.0	802.0	800.0	793.3	786.7	778.7
20°	794.0	791.3	788.0	787.3	785.3	783.3	782.0	778.0	770.7	762.7	757.3
22.5°	774.0	771.3	768.0	766.7	762.7	761.3	759.3	753.3	745.3	738.0	732.0
25°	753.3	750.0	746.0	744.0	739.3	736.7	736.0	727.3	719.3	711.3	704.0
27.5°	729.3	726.7	723.3	719.3	714.7	711.3	710.0	702.0	692.0	682.7	676.0
30°	706.0	702.0	698.7	694.0	687.3	684.0	681.3	673.3	664.7	653.3	647.3
32.5°	678.7	676.0	672.0	667.3	660.7	658.0	654.0	644.0	632.7	624.7	615.3
35°	652.7	650.0	644.0	639.3	630.0	627.3	623.3	614.7	602.0	592.7	584.7
37.5°	624.0	620.7	616.0	609.3	601.3	598.0	592.7	584.0	569.3	560.0	550.0
40°	596.0	591.3	586.0	578.7	570.7	567.3	562.7	550.0	538.0	527.3	518.7
42.5°	568.0	562.7	556.0	549.3	540.7	536.0	530.7	518.7	505.3	495.3	483.3
45°	536.7	532.7	526.0	518.0	508.0	504.7	498.7	486.0	472.7	462.0	450.0
47.5°	506.0	501.3	494.7	486.7	476.7	472.0	466.0	453.3	440.0	426.7	416.0
50°	474.7	470.0	462.0	454.0	444.7	438.7	433.3	420.7	406.0	394.0	380.7
52.5°	441.3	437.3	430.7	422.7	410.7	406.0	400.7	386.7	372.7	358.7	346.7
55°	409.3	406.7	398.7	390.7	378.0	372.7	367.3	352.7	338.7	324.7	313.3
57.5°	376.0	374.0	366.0	356.7	345.3	340.0	333.3	318.7	305.3	291.3	279.3
60°	342.7	340.7	332.7	323.3	312.7	306.0	298.7	287.3	272.0	259.3	246.0
62.5°	310.7	308.0	301.3	291.3	279.3	272.7	266.0	252.7	238.7	225.3	213.3
65°	278.0	274.7	266.7	256.7	245.3	239.3	232.7	220.0	206.0	193.3	182.0
67.5°	245.3	242.0	233.3	225.3	212.0	206.0	200.0	187.3	174.0	161.3	150.7
70°	212.0	208.7	202.0	191.3	180.0	174.0	168.0	154.7	142.7	133.3	123.3
72.5°	179.3	176.7	170.0	160.0	149.3	143.3	136.7	125.3	114.7	104.7	97.3
75°	148.0	144.0	138.0	128.7	118.0	112.7	108.0	96.7	86.7	80.0	74.0
77.5°	118.0	113.3	106.7	99.3	89.3	84.0	79.3	70.0	63.3	58.7	57.3
80°	86.7	86.0	79.3	71.3	62.7	58.7	54.0	48.0	46.0	45.3	44.0
82.5°	60.7	58.0	52.7	45.3	38.7	36.0	34.7	33.3	32.0	32.0	30.7
85°	36.7	34.0	29.3	23.3	22.0	21.3	20.7	20.7	20.0	19.3	19.3
87.5°	16.0	13.3	10.0	9.3	8.7	8.7	9.3	9.3	9.3	8.7	8.7
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	868.0	868.0	868.0	868.0	868.0	868.0	868.0	868.0	868.0	868.0
2.5°	861.4	864.7	866.7	867.4	867.4	867.4	868.0	868.0	867.4	866.7
5°	856.7	860.0	861.4	862.7	862.7	862.7	862.7	862.7	862.0	860.7
7.5°	849.4	851.4	853.4	852.7	852.7	852.0	851.4	852.0	850.7	850.7
10°	836.0	838.0	839.4	837.4	837.4	838.0	838.0	837.4	835.4	833.4
12.5°	820.7	822.7	820.7	821.4	820.0	818.7	818.0	817.4	815.4	814.0
15°	800.7	800.7	799.3	799.3	797.3	794.7	794.0	794.7	792.0	792.0
17.5°	778.7	777.3	775.3	774.0	773.3	773.3	770.7	770.7	767.3	766.7
20°	754.7	753.3	751.3	748.0	746.7	747.3	744.7	742.7	740.7	740.0
22.5°	729.3	726.0	724.0	720.7	718.0	718.0	716.0	712.7	710.7	708.7
25°	700.7	697.3	693.3	690.7	688.7	685.3	684.0	681.3	679.3	678.7
27.5°	671.3	666.0	660.7	658.0	656.7	652.7	650.7	649.3	645.3	644.7
30°	640.0	636.0	629.3	624.7	621.3	622.0	617.3	614.7	612.7	610.7
32.5°	610.0	603.3	596.7	590.7	586.7	586.0	581.3	578.7	576.7	574.7
35°	576.0	569.3	561.3	556.0	552.0	550.0	545.3	544.0	540.7	539.3
37.5°	542.0	534.7	526.7	520.0	517.3	512.7	510.7	507.3	504.7	504.7
40°	508.7	500.0	492.0	484.0	480.7	478.0	472.7	470.0	466.7	464.7
42.5°	474.0	464.0	456.7	449.3	444.7	442.7	436.7	433.3	430.0	429.3
45°	439.3	429.3	420.0	412.7	410.7	406.7	400.7	396.0	395.3	394.7
47.5°	404.0	394.0	385.3	377.3	374.7	370.0	366.0	362.7	358.7	356.7
50°	370.0	360.0	350.7	342.0	338.7	334.7	330.7	326.0	324.7	322.7
52.5°	336.0	324.7	314.7	306.7	304.0	300.7	296.0	292.0	290.0	288.7
55°	301.3	290.0	281.3	273.3	270.0	268.0	262.7	259.3	256.7	255.3
57.5°	267.3	256.0	248.0	242.0	237.3	235.3	230.0	226.7	225.3	224.7
60°	235.3	224.7	216.0	210.0	206.0	204.0	200.0	196.7	194.7	194.0
62.5°	203.3	194.0	186.0	180.0	177.3	174.7	171.3	168.7	166.7	166.7
65°	172.7	163.3	156.0	151.3	148.7	147.3	143.3	142.0	140.0	140.0
67.5°	142.7	136.0	130.7	124.7	122.7	122.7	118.7	117.3	116.0	116.0
70°	116.7	110.7	104.7	101.3	99.3	98.7	95.3	93.3	92.0	90.7
72.5°	91.3	86.0	80.7	80.0	80.0	79.3	79.3	78.0	78.0	78.7
75°	70.0	68.7	67.3	67.3	66.7	66.0	66.0	65.3	65.3	65.3
77.5°	56.0	55.3	54.7	54.0	54.0	53.3	52.7	52.7	52.7	52.7
80°	42.7	42.0	42.0	41.3	40.7	41.3	40.7	40.7	40.0	40.0
82.5°	30.0	30.0	30.0	29.3	29.3	29.3	29.3	28.7	28.7	29.3
85°	18.7	18.7	18.7	18.7	18.0	18.7	18.0	18.0	18.0	18.7
87.5°	8.0	8.7	8.0	8.7	8.7	8.0	8.0	8.0	8.0	8.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)