

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: P333961

Luminaire Tested: S123DP-S560D840-4F0-1E-UDD-D

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2019
Report Number: P333961
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: S123DP-S560D840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT LED LUMINAIRE, DROP SATIN WHITE DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 560 LUMENS PER FOOT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2237.1 lumens
Efficiency: N/A
Efficacy: 119.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Direct

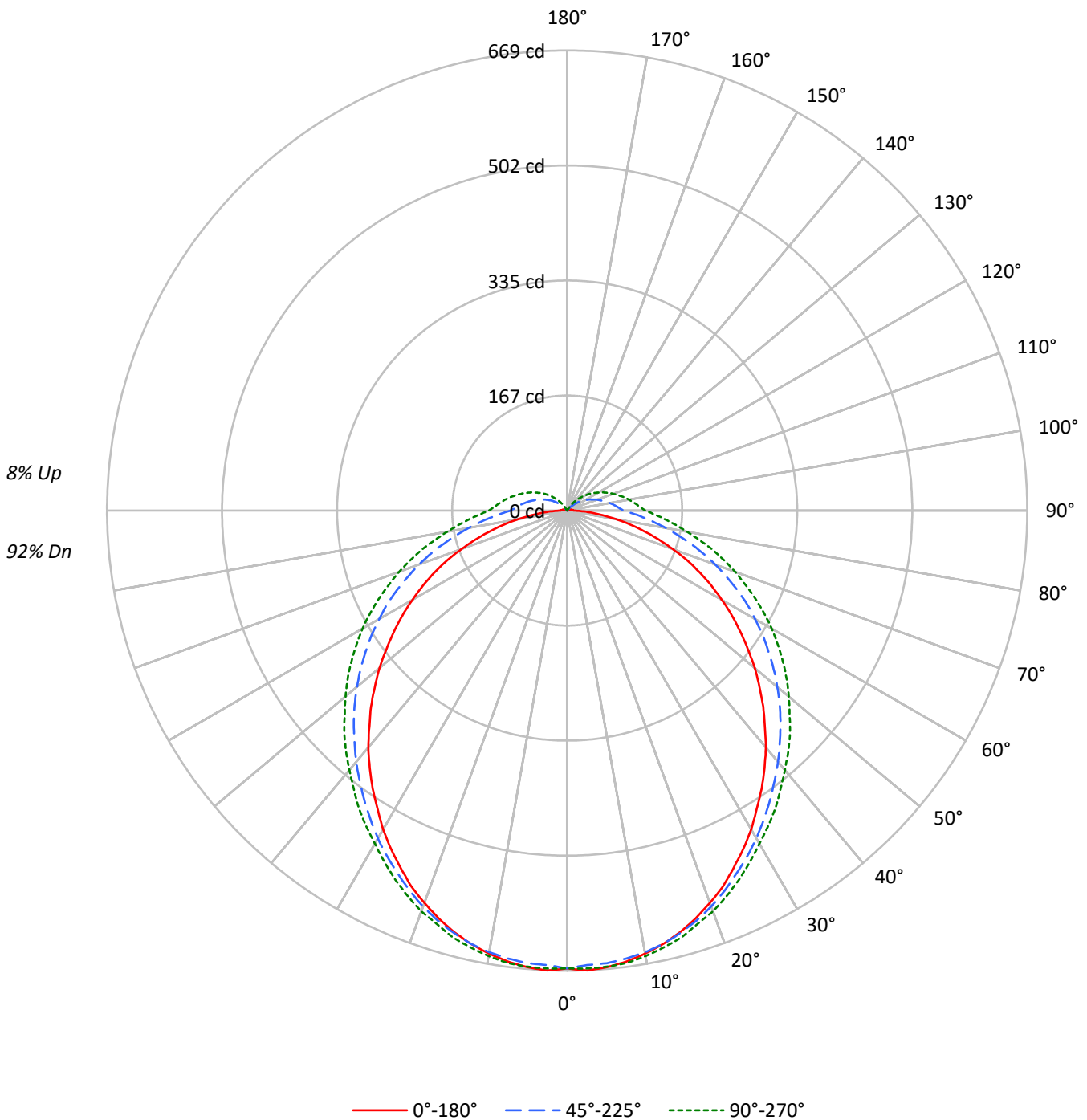
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7166	7166	7166
5°	7187	6985	6989
10°	7122	6824	6790
15°	7031	6641	6572
20°	6900	6432	6334
25°	6738	6193	6082
30°	6572	5977	5828
35°	6386	5748	5625
40°	6209	5540	5406
45°	6012	5341	5233
50°	5817	5144	5041
55°	5602	4942	4869
60°	5394	4736	4692
65°	5181	4518	4480
70°	4855	4272	4265
75°	4449	3991	4047
80°	3981	3715	3795
85°	3541	3525	3650

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6012 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.1	2.8
10°-20°	180.0	8.0
20°-30°	269.2	12.0
30°-40°	321.4	14.4
40°-50°	336.3	15.0
50°-60°	315.6	14.1
60°-70°	263.6	11.8
70°-80°	188.5	8.4
80°-90°	112.1	5.0
90°-100°	70.5	3.2
100°-110°	51.8	2.3
110°-120°	34.6	1.5
120°-130°	19.8	0.9
130°-140°	8.9	0.4
140°-150°	1.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	512.3	22.9
0°-40°	833.7	37.3
0°-60°	1485.6	66.4
0°-90°	2049.8	91.6
90°-120°	156.9	7.0
90°-150°	187.3	8.4
90°-180°	187.0	8.4
0°-180°	2237.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	666	666	666	666	666	
5°	666	665	661	666	666	63
15°	634	637	636	643	642	179
25°	573	580	582	592	592	264
35°	493	505	514	525	528	308
45°	403	421	439	452	458	311
55°	307	331	358	377	383	275
65°	212	241	273	294	302	210
75°	115	149	186	210	218	123
85°	36	72	110	135	142	37
90°	9	45	82	107	114	7
95°	8	36	72	94	102	6
105°	6	23	54	75	81	6
115°	4	12	38	56	62	4
125°	2	2	23	38	44	2
135°	2	1	9	22	25	1
145°	1	0	0	6	9	0
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°	665.7	665.7	665.7	665.7	665.7
2.5°	669.3	667.1	661.3	667.1	666.4
5°	666.4	664.9	660.6	666.4	665.7
7.5°	661.3	661.3	656.9	664.2	663.5
10°	654.0	655.5	651.9	659.1	657.7
12.5°	645.3	647.5	645.3	651.9	650.4
15°	634.5	636.6	635.9	643.2	642.4
17.5°	621.4	625.8	625.0	631.6	630.1
20°	606.9	611.3	612.7	619.2	620.0
22.5°	591.7	596.0	598.2	606.9	606.2
25°	572.8	580.1	582.3	591.7	591.7
27.5°	554.7	562.7	567.0	575.0	575.7
30°	535.1	544.6	550.4	559.1	559.1
32.5°	513.4	524.3	532.2	541.7	543.8
35°	493.1	504.7	514.1	525.0	527.9
37.5°	471.3	484.4	495.2	507.6	509.8
40°	449.6	462.6	477.1	489.4	492.3
42.5°	425.6	442.3	457.5	471.3	475.7
45°	403.2	420.6	438.7	452.5	458.3
47.5°	379.2	398.8	419.1	434.3	438.7
50°	356.0	376.3	398.8	415.5	420.6
52.5°	331.4	353.1	378.5	395.9	402.4
55°	307.4	331.4	357.5	377.1	382.9
57.5°	284.2	308.9	337.2	356.8	363.3
60°	259.6	285.7	315.4	335.7	343.7
62.5°	236.4	263.2	295.1	315.4	322.7
65°	212.5	240.7	272.6	294.4	301.6
67.5°	188.5	218.3	250.2	274.1	279.9
70°	163.1	194.3	229.1	252.3	259.6
72.5°	139.9	171.1	207.4	231.3	238.6
75°	115.3	149.4	185.6	209.6	218.3
77.5°	94.3	128.3	164.6	190.0	196.5
80°	71.8	107.3	145.0	169.7	176.9
82.5°	52.2	88.5	126.9	151.5	158.8
85°	35.5	71.8	110.2	134.9	142.1
87.5°	21.8	58.0	95.0	119.6	126.9
90°	9.4	45.0	81.9	106.6	113.8
92.5°	8.7	39.9	76.1	100.1	106.6
95°	8.0	36.3	71.8	94.3	101.5
97.5°	7.3	33.4	67.4	89.2	96.4
100°	6.5	29.7	63.1	84.1	91.4
102.5°	5.8	26.1	58.7	79.0	86.3
105°	5.8	23.2	54.4	74.7	81.2
107.5°	5.1	20.3	50.0	69.6	76.1
110°	4.4	17.4	46.4	65.3	71.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.4	14.5	42.1	60.2	66.7
115°	3.6	12.3	38.4	55.8	61.6
117.5°	3.6	9.4	34.1	51.5	57.3
120°	2.9	6.5	30.5	47.1	52.2
122.5°	2.9	4.4	26.8	42.8	47.9
125°	2.2	2.2	23.2	38.4	43.5
127.5°	2.2	1.5	19.6	34.1	39.2
130°	2.2	1.5	16.0	29.7	34.1
132.5°	1.5	1.5	12.3	25.4	30.5
135°	1.5	0.7	8.7	21.8	25.4
137.5°	1.5	0.7	5.8	17.4	21.0
140°	0.7	0.7	2.9	13.8	17.4
142.5°	0.7	0.0	0.0	9.4	13.1
145°	0.7	0.0	0.0	5.8	8.7
147.5°	0.0	0.0	0.0	2.2	5.1
150°	0.0	0.0	0.0	0.0	1.5
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

(END OF REPORT)