

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: P243298

Luminaire Tested: S123DRP-H775D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243298
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H775D840-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

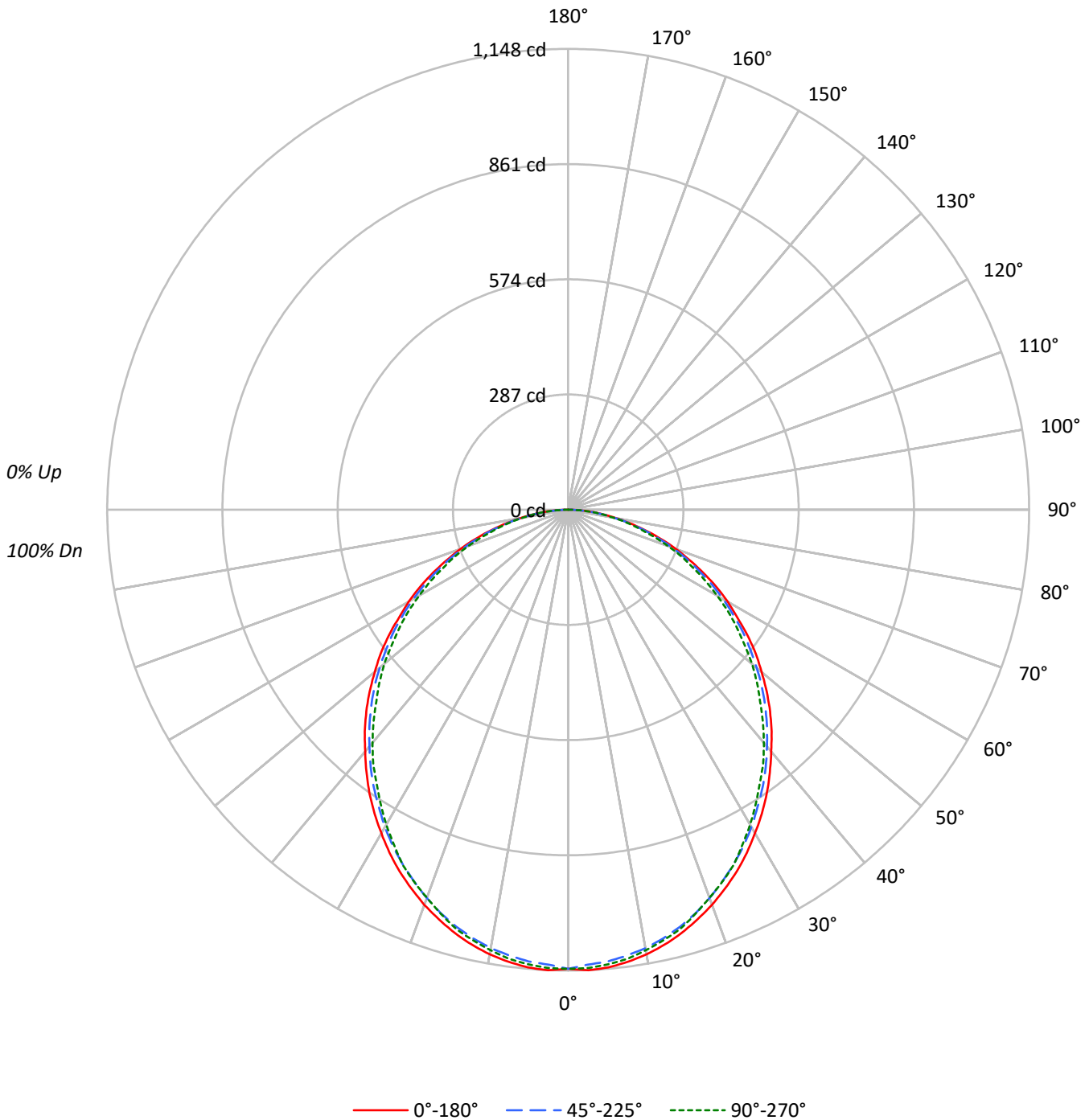
Lumens per Lamp: N/A
Luminaire Lumens: 3025.6 lumens
Efficiency: N/A
Efficacy: 128.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 23.6
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: 24 FT

TEST NUMBER: P243298

CATALOG NUMBER: S123DRP-H775D840-X4F0-XX-UDD-F-W

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	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13863	13863	13863
5°	13928	13744	13836
10°	13846	13647	13718
15°	13702	13500	13560
20°	13513	13281	13269
25°	13291	13040	13052
30°	13025	12774	12682
35°	12766	12487	12305
40°	12443	12189	11996
45°	12186	11897	11590
50°	11859	11558	11273
55°	11517	11217	10839
60°	11108	10812	10378
65°	10629	10302	9872
70°	10093	9757	9356
75°	9362	9095	8613
80°	8425	8230	7965
85°	7872	7468	7218

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12186 cd/sqm

TEST NUMBER: P243298

CATALOG NUMBER: S123DRP-H775D840-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.9	3.6
10°-20°	305.2	10.1
20°-30°	451.8	14.9
30°-40°	529.8	17.5
40°-50°	535.6	17.7
50°-60°	473.7	15.7
60°-70°	355.8	11.8
70°-80°	205.0	6.8
80°-90°	60.8	2.0
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°	864.8	28.6
0°-40°	1394.6	46.1
0°-60°	2404.0	79.5
0°-90°	3025.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3025.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1144	1144	1144	1144	1144	
5°	1145	1140	1130	1139	1137	109
15°	1092	1086	1076	1083	1081	308
25°	994	986	975	980	976	458
35°	863	855	844	841	832	539
45°	711	705	694	684	676	548
55°	545	541	531	520	513	487
65°	371	368	359	350	344	367
75°	200	198	194	189	184	212
85°	57	56	54	53	52	63
90°	0	0	0	0	0	



TEST NUMBER: P243298

CATALOG NUMBER: S123DRP-H775D840-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1143.7	1143.7	1143.7	1143.7	1143.7
2.5°	1148.4	1144.7	1134.3	1144.7	1142.8
5°	1144.7	1140.0	1129.6	1139.0	1137.1
7.5°	1136.2	1131.5	1120.2	1130.5	1128.6
10°	1124.9	1120.2	1108.8	1117.3	1114.5
12.5°	1109.8	1105.1	1093.8	1100.4	1098.5
15°	1091.9	1086.2	1075.8	1083.4	1080.6
17.5°	1070.2	1065.5	1054.2	1063.6	1055.1
20°	1047.6	1042.8	1029.6	1038.1	1028.7
22.5°	1021.2	1015.5	1002.3	1008.0	1003.2
25°	993.8	986.3	975.0	979.7	975.9
27.5°	963.6	956.1	944.8	946.7	940.1
30°	930.6	924.0	912.7	914.6	906.1
32.5°	897.6	892.0	877.8	877.8	869.3
35°	862.7	855.2	843.9	841.1	831.6
37.5°	825.0	818.4	808.1	803.3	797.7
40°	786.4	782.6	770.3	764.7	758.1
42.5°	749.6	743.0	732.6	725.1	717.5
45°	710.9	705.3	694.0	684.5	676.1
47.5°	670.4	665.7	654.4	644.0	637.4
50°	628.9	625.1	612.9	601.6	597.8
52.5°	588.4	583.6	571.4	561.0	553.5
55°	545.0	541.2	530.8	520.5	512.9
57.5°	498.8	498.8	487.5	478.0	472.4
60°	458.2	453.5	446.0	435.6	428.1
62.5°	415.8	413.0	402.6	392.2	386.6
65°	370.6	367.7	359.2	349.8	344.2
67.5°	326.2	325.3	317.8	310.2	306.4
70°	284.8	282.9	275.3	267.8	264.0
72.5°	242.3	240.4	233.8	227.2	222.5
75°	199.9	198.0	194.2	188.6	183.9
77.5°	158.4	158.4	153.7	151.8	149.9
80°	120.7	119.7	117.9	116.0	114.1
82.5°	86.7	85.8	83.9	83.0	83.0
85°	56.6	55.6	53.7	52.8	51.9
87.5°	29.2	27.3	26.4	24.5	23.6
90°	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	20.59	22.21	20.95	22.53	22.84	20.27	21.90	20.64	22.21	22.53
	3H	22.38	23.85	22.76	24.18	24.54	22.03	23.50	22.41	23.83	24.19
	4H	23.06	24.45	23.46	24.79	25.17	22.68	24.06	23.08	24.41	24.79
	6H	23.56	24.84	23.97	25.21	25.60	23.18	24.46	23.59	24.83	25.22
	8H	23.73	24.95	24.15	25.34	25.74	23.35	24.58	23.78	24.97	25.36
	12H	23.85	25.02	24.28	25.41	25.83	23.47	24.65	23.90	25.03	25.46
4H	2H	21.18	22.56	21.57	22.91	23.28	20.93	22.32	21.33	22.66	23.04
	3H	23.20	24.36	23.61	24.76	25.16	22.91	24.07	23.31	24.46	24.86
	4H	24.01	25.06	24.44	25.48	25.91	23.68	24.74	24.12	25.15	25.58
	6H	24.64	25.56	25.10	26.00	26.46	24.31	25.23	24.77	25.67	26.13
	8H	24.86	25.72	25.32	26.16	26.63	24.53	25.40	25.00	25.84	26.30
	12H	25.03	25.81	25.51	26.28	26.75	24.70	25.48	25.18	25.95	26.42
8H	4H	24.31	25.17	24.77	25.61	26.07	24.02	24.88	24.48	25.32	25.79
	6H	25.06	25.78	25.55	26.26	26.74	24.77	25.49	25.27	25.98	26.45
	8H	25.36	26.00	25.87	26.51	26.99	25.07	25.72	25.58	26.22	26.71
	12H	25.62	26.18	26.12	26.67	27.23	25.32	25.89	25.83	26.38	26.94
12H	4H	24.34	25.11	24.82	25.59	26.06	24.06	24.83	24.54	25.31	25.78
	6H	25.12	25.76	25.62	26.27	26.75	24.84	25.48	25.35	25.99	26.48
	8H	25.47	26.04	25.98	26.53	27.09	25.20	25.77	25.71	26.26	26.82