

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: P242597

Luminaire Tested: S124DRP-S1020D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242597
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-5)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S1020D927-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

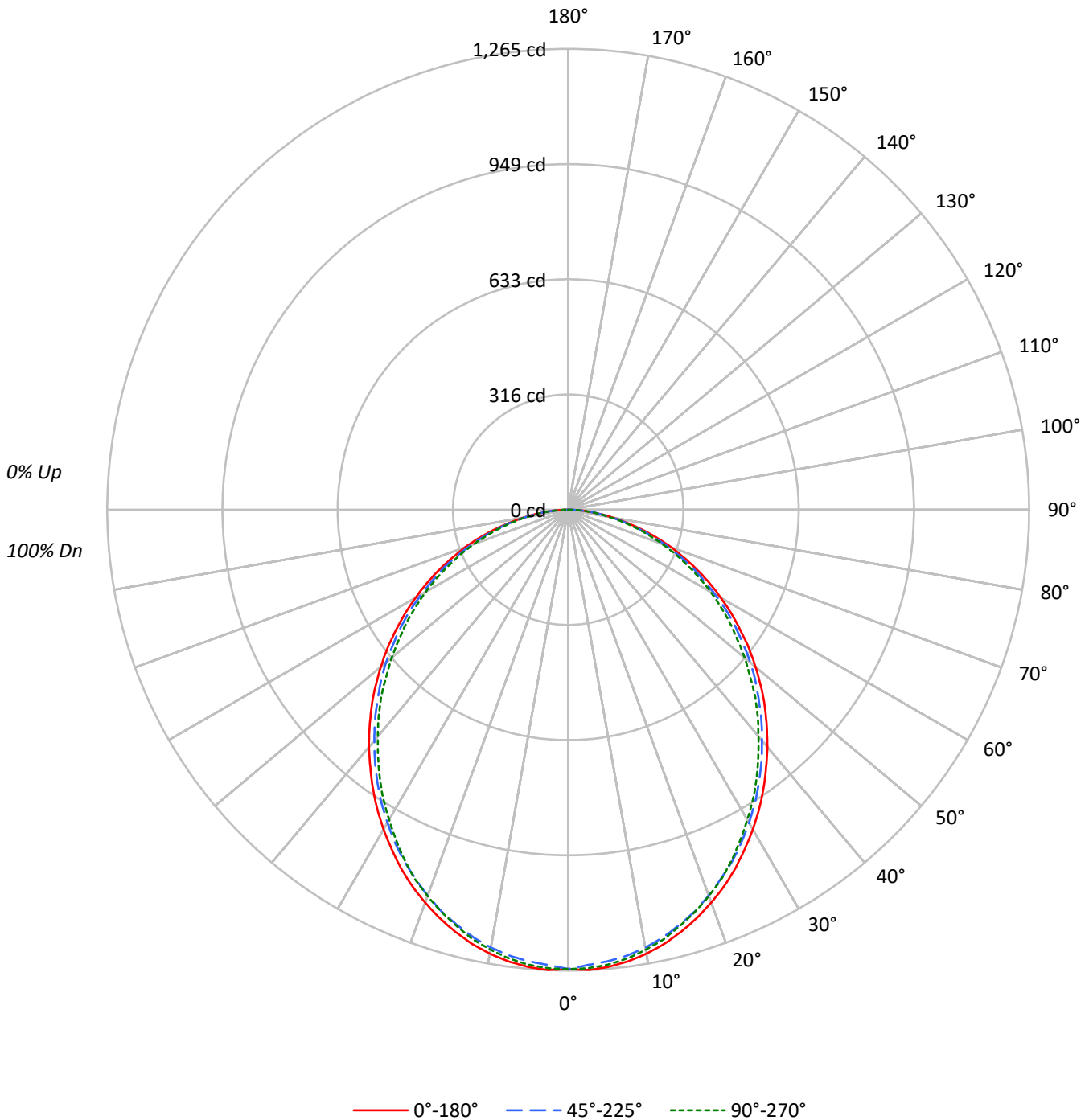
Lumens per Lamp: N/A
Luminaire Lumens: 3236.0 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
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

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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	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84					84			
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70					70			
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60					60			
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51					51			
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44					44			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35					35			
8	61	48	39	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28					28			
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11207	11207	11207
5°	11241	11105	11187
10°	11170	11015	11070
15°	11035	10858	10887
20°	10856	10665	10674
25°	10651	10443	10414
30°	10401	10182	10090
35°	10141	9909	9778
40°	9870	9601	9424
45°	9588	9296	9118
50°	9276	9025	8745
55°	8939	8674	8392
60°	8603	8279	8028
65°	8224	7904	7587
70°	7797	7404	7116
75°	7147	6800	6628
80°	6363	6102	5948
85°	5569	5354	5252

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9588 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.8	3.7
10°-20°	334.8	10.3
20°-30°	492.7	15.2
30°-40°	572.8	17.7
40°-50°	572.7	17.7
50°-60°	500.9	15.5
60°-70°	371.9	11.5
70°-80°	211.0	6.5
80°-90°	60.4	1.9
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°	946.3	29.2
0°-40°	1519.1	46.9
0°-60°	2592.7	80.1
0°-90°	3236.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3236.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1261	1261	1261	1261	1261	
5°	1260	1256	1245	1256	1254	120
15°	1199	1195	1180	1186	1183	338
25°	1086	1079	1065	1066	1062	500
35°	934	927	913	906	901	584
45°	763	756	740	728	725	588
55°	577	574	560	548	542	517
65°	391	386	376	366	361	387
75°	208	203	198	194	193	221
85°	55	55	52	52	52	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1260.8	1260.8	1260.8	1260.8	1260.8
2.5°	1264.8	1261.8	1250.7	1260.8	1259.8
5°	1259.8	1255.7	1244.6	1255.7	1253.7
7.5°	1250.7	1246.6	1234.5	1243.6	1242.6
10°	1237.5	1233.5	1220.4	1228.4	1226.4
12.5°	1220.4	1216.3	1202.2	1211.3	1208.2
15°	1199.1	1195.1	1179.9	1186.0	1183.0
17.5°	1174.9	1169.8	1155.7	1159.7	1157.7
20°	1147.6	1142.6	1127.4	1130.4	1128.4
22.5°	1118.3	1111.3	1096.1	1102.2	1098.1
25°	1086.0	1078.9	1064.8	1065.8	1061.8
27.5°	1049.6	1042.6	1029.4	1027.4	1022.4
30°	1013.3	1005.2	992.0	988.0	983.0
32.5°	974.9	967.8	953.7	948.6	943.6
35°	934.5	927.4	913.2	906.2	901.1
37.5°	892.0	886.0	870.8	863.7	856.7
40°	850.6	842.5	827.4	817.3	812.2
42.5°	806.2	802.1	784.9	772.8	769.8
45°	762.7	755.7	739.5	728.4	725.3
47.5°	717.3	712.2	697.1	684.9	676.9
50°	670.8	666.8	652.6	638.5	632.4
52.5°	625.3	620.3	605.1	593.0	584.9
55°	576.8	573.8	559.7	547.5	541.5
57.5°	531.4	528.3	514.2	502.1	496.0
60°	483.9	478.8	465.7	456.6	451.6
62.5°	437.4	433.4	419.2	411.2	406.1
65°	391.0	385.9	375.8	365.7	360.7
67.5°	343.5	339.4	329.3	319.2	318.2
70°	300.0	293.0	284.9	276.8	273.8
72.5°	253.6	246.5	240.4	234.4	231.3
75°	208.1	203.1	198.0	194.0	193.0
77.5°	163.7	161.6	156.6	155.6	152.5
80°	124.3	121.2	119.2	117.2	116.2
82.5°	85.9	84.9	84.9	83.8	82.8
85°	54.6	54.6	52.5	52.5	51.5
87.5°	26.3	25.3	24.2	24.2	24.2
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	19.69	21.31	20.06	21.62	21.94	19.32	20.93	19.68	21.25	21.56
	3H	21.45	22.91	21.83	23.24	23.60	21.03	22.49	21.41	22.82	23.18
	4H	22.11	23.48	22.51	23.83	24.21	21.67	23.05	22.07	23.40	23.77
	6H	22.58	23.86	22.99	24.22	24.61	22.15	23.42	22.56	23.79	24.18
	8H	22.73	23.95	23.16	24.34	24.74	22.31	23.52	22.73	23.91	24.31
	12H	22.84	24.00	23.27	24.38	24.81	22.42	23.58	22.85	23.96	24.39
4H	2H	20.27	21.64	20.66	21.99	22.36	19.97	21.34	20.37	21.69	22.06
	3H	22.25	23.40	22.65	23.79	24.19	21.90	23.05	22.31	23.44	23.84
	4H	23.03	24.07	23.46	24.48	24.92	22.66	23.70	23.10	24.12	24.55
	6H	23.63	24.54	24.09	24.98	25.44	23.27	24.18	23.72	24.62	25.07
	8H	23.83	24.68	24.29	25.12	25.59	23.47	24.32	23.93	24.76	25.23
	12H	23.98	24.75	24.46	25.22	25.69	23.63	24.39	24.11	24.87	25.34
8H	4H	23.30	24.15	23.76	24.60	25.06	22.98	23.83	23.44	24.28	24.74
	6H	24.03	24.73	24.52	25.22	25.70	23.71	24.41	24.20	24.90	25.38
	8H	24.30	24.93	24.81	25.44	25.92	23.99	24.62	24.50	25.13	25.61
	12H	24.53	25.09	25.03	25.58	26.14	24.22	24.78	24.73	25.27	25.83
12H	4H	23.33	24.10	23.81	24.57	25.04	23.02	23.78	23.50	24.26	24.73
	6H	24.07	24.71	24.58	25.22	25.70	23.77	24.40	24.28	24.91	25.39
	8H	24.40	24.97	24.91	25.46	26.02	24.11	24.67	24.61	25.16	25.72