

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: P929822

Luminaire Tested: DFN2DS-4P2F0-030DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929822
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P2F0-030DS950-RLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

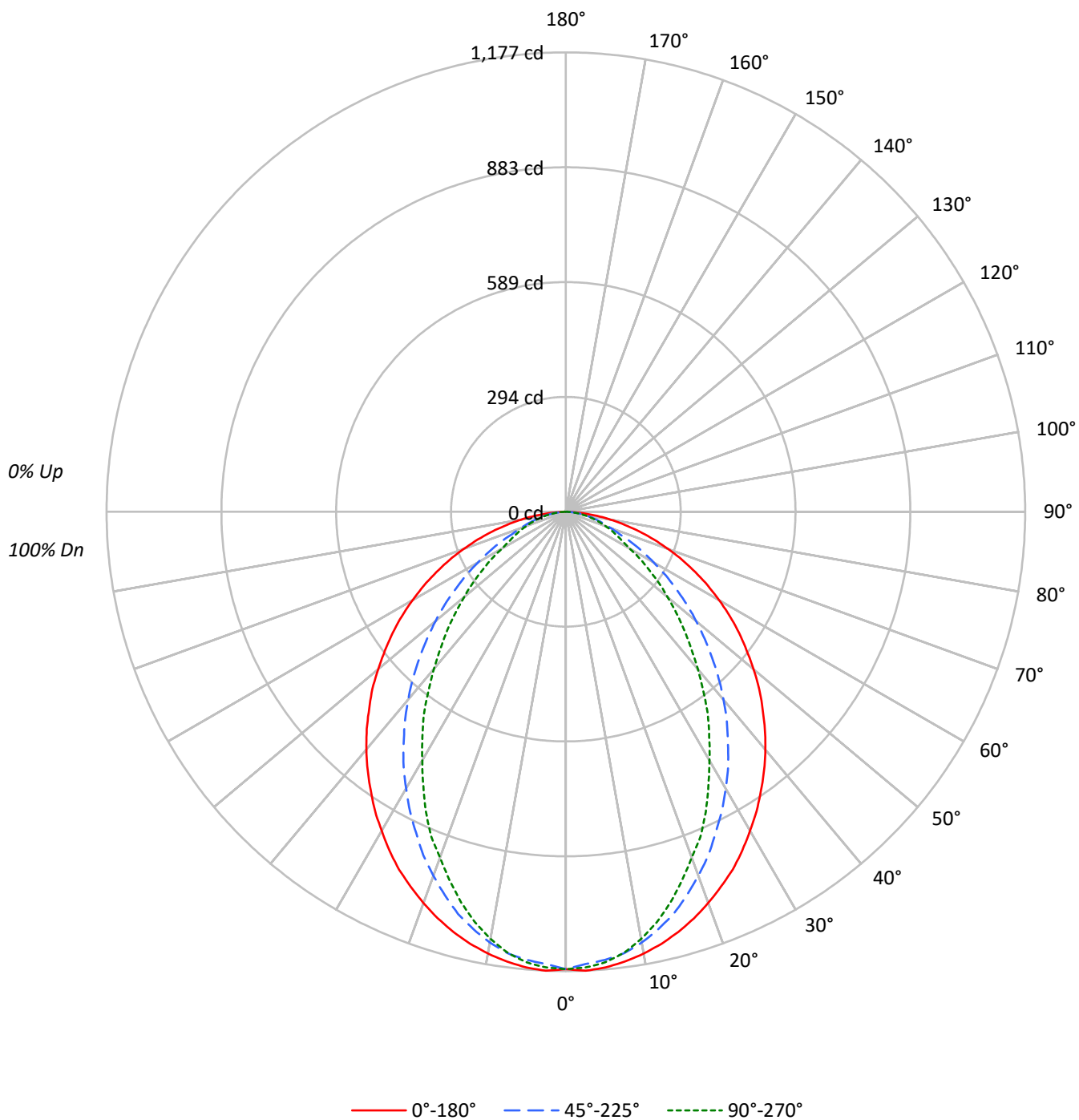
Lumens per Lamp: N/A
Luminaire Lumens: 2409.7 lumens
Efficiency: N/A
Efficacy: 79.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 30.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2934	2934	2934
5°	2945	2897	2913
10°	2922	2850	2826
15°	2889	2765	2686
20°	2842	2644	2512
25°	2795	2508	2343
30°	2729	2367	2128
35°	2665	2214	1938
40°	2600	2055	1719
45°	2523	1878	1521
50°	2446	1698	1326
55°	2365	1504	1139
60°	2273	1301	946
65°	2167	1093	860
70°	2042	900	791
75°	1887	821	739
80°	1667	733	673
85°	1307	577	577

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2523 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.8	4.6
10°-20°	301.5	12.5
20°-30°	423.2	17.6
30°-40°	461.4	19.1
40°-50°	424.0	17.6
50°-60°	333.0	13.8
60°-70°	216.8	9.0
70°-80°	111.6	4.6
80°-90°	28.5	1.2
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°	834.5	34.6
0°-40°	1295.9	53.8
0°-60°	2052.9	85.2
0°-90°	2409.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2409.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1172	1172	1172	1172	1172	
5°	1172	1166	1153	1162	1159	111
15°	1114	1103	1067	1047	1036	314
25°	1012	978	908	864	848	465
35°	872	818	724	657	634	546
45°	713	642	530	455	429	550
55°	542	459	344	281	261	484
65°	366	280	184	148	145	363
75°	195	121	85	77	76	206
85°	46	23	20	20	20	55
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1171.7	1171.7	1171.7	1171.7	1171.7
2.5°	1177.0	1171.7	1160.0	1170.7	1168.6
5°	1171.7	1166.4	1152.6	1162.2	1158.9
7.5°	1162.2	1155.8	1141.0	1145.2	1139.9
10°	1149.4	1142.0	1120.9	1117.6	1111.3
12.5°	1133.5	1124.0	1095.3	1089.0	1077.3
15°	1114.4	1102.7	1066.7	1046.6	1036.0
17.5°	1092.1	1075.2	1030.6	1007.4	990.4
20°	1066.7	1045.5	992.4	966.1	942.6
22.5°	1039.2	1014.7	953.2	917.2	901.3
25°	1011.6	977.6	907.7	864.2	848.2
27.5°	978.7	942.6	865.2	815.4	791.0
30°	943.8	903.4	818.6	764.6	735.9
32.5°	909.8	861.0	774.1	710.5	683.9
35°	871.7	817.5	724.2	657.4	634.1
37.5°	834.5	776.1	677.6	604.3	578.0
40°	795.3	731.7	628.8	553.5	526.0
42.5°	755.0	687.2	580.0	501.5	475.1
45°	712.6	641.5	530.2	454.8	429.4
47.5°	672.3	597.1	482.5	407.1	383.9
50°	627.8	552.4	435.8	362.6	340.4
52.5°	584.2	504.7	391.3	321.3	301.2
55°	541.8	459.1	344.5	281.0	260.9
57.5°	498.4	413.5	303.3	243.9	226.9
60°	453.8	369.0	259.8	205.7	188.8
62.5°	410.4	325.6	222.6	171.8	163.4
65°	365.8	279.9	184.5	148.5	145.2
67.5°	323.5	237.5	148.5	130.4	127.2
70°	278.9	196.2	122.9	112.4	108.1
72.5°	236.4	157.9	102.8	94.4	92.2
75°	195.0	120.9	84.9	77.4	76.4
77.5°	153.8	85.8	66.8	62.6	60.4
80°	115.6	61.5	50.8	46.7	46.7
82.5°	80.5	41.4	35.0	32.9	32.9
85°	45.5	23.2	20.1	20.1	20.1
87.5°	17.0	8.4	8.4	7.5	7.5
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	14.97	16.50	15.34	16.81	17.12	10.93	12.46	11.30	12.77	13.08
	3H	16.74	18.10	17.12	18.43	18.79	12.20	13.57	12.58	13.89	14.25
	4H	17.41	18.69	17.81	19.03	19.41	12.70	13.98	13.10	14.33	14.71
	6H	17.89	19.08	18.31	19.44	19.84	13.08	14.27	13.49	14.63	15.02
	8H	18.06	19.19	18.49	19.58	19.98	13.21	14.33	13.63	14.72	15.12
	12H	18.16	19.24	18.59	19.62	20.05	13.29	14.37	13.72	14.75	15.18
4H	2H	15.08	16.36	15.48	16.71	17.09	11.63	12.91	12.03	13.26	13.64
	3H	17.01	18.07	17.42	18.47	18.88	13.07	14.14	13.48	14.54	14.94
	4H	17.76	18.72	18.19	19.13	19.57	13.67	14.63	14.11	15.04	15.48
	6H	18.35	19.18	18.81	19.63	20.09	14.16	14.99	14.62	15.44	15.90
	8H	18.57	19.34	19.03	19.79	20.26	14.32	15.10	14.79	15.55	16.01
	12H	18.72	19.41	19.20	19.89	20.36	14.44	15.14	14.92	15.61	16.08
8H	4H	17.78	18.56	18.25	19.01	19.47	14.03	14.80	14.49	15.25	15.72
	6H	18.42	19.07	18.92	19.56	20.03	14.61	15.26	15.11	15.75	16.22
	8H	18.67	19.25	19.19	19.76	20.25	14.84	15.41	15.35	15.92	16.41
	12H	18.88	19.39	19.39	19.88	20.44	15.01	15.52	15.52	16.02	16.58
12H	4H	17.77	18.46	18.25	18.94	19.41	14.07	14.76	14.55	15.24	15.71
	6H	18.40	18.98	18.92	19.49	19.98	14.68	15.25	15.19	15.76	16.25
	8H	18.69	19.20	19.20	19.69	20.25	14.95	15.46	15.46	15.95	16.52