

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: P929947

Luminaire Tested: DFN2DS-4P4F0-030DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929947
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P4F0-030DS950-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

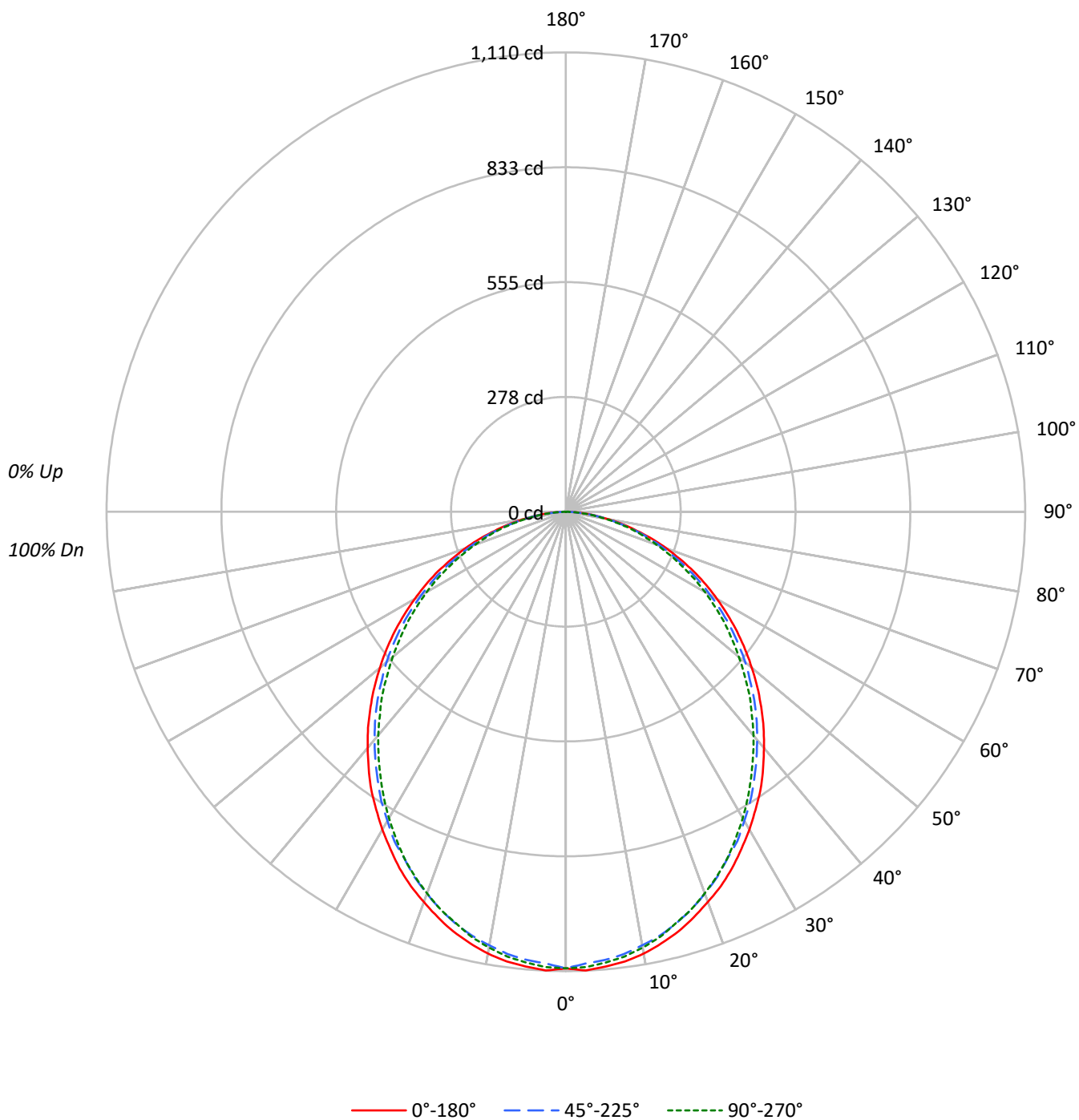
Lumens per Lamp: N/A
Luminaire Lumens: 2806.7 lumens
Efficiency: N/A
Efficacy: 99.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 28.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P929947

CATALOG NUMBER: DFN2DS-4P4F0-030DS950-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P929947

CATALOG NUMBER: DFN2DS-4P4F0-030DS950-FLL

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	30	10	50	30	10
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	95	98	95	92	94	91	89	90	88	86	84		
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71		
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60		
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51		
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45		
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39		
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35		
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31		
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28		
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	716	716	716
5°	718	708	712
10°	714	701	704
15°	705	692	691
20°	693	678	677
25°	680	661	661
30°	664	646	640
35°	649	628	618
40°	631	609	597
45°	612	591	576
50°	592	572	551
55°	571	549	529
60°	548	523	504
65°	523	497	474
70°	491	465	443
75°	446	428	418
80°	396	384	365
85°	324	308	276

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 612 cd/sqm

TEST NUMBER: P929947

CATALOG NUMBER: DFN2DS-4P4F0-030DS950-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.8	3.7
10°-20°	292.1	10.4
20°-30°	429.3	15.3
30°-40°	498.6	17.8
40°-50°	498.0	17.7
50°-60°	434.2	15.5
60°-70°	321.0	11.4
70°-80°	181.6	6.5
80°-90°	47.9	1.7
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°	825.3	29.4
0°-40°	1323.9	47.2
0°-60°	2256.1	80.4
0°-90°	2806.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2806.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1103	1103	1103	1103	1103	
5°	1103	1099	1087	1096	1094	105
15°	1050	1044	1030	1034	1029	296
25°	950	942	924	926	924	437
35°	820	809	792	786	781	512
45°	667	660	644	632	628	515
55°	505	499	486	473	468	451
65°	341	334	324	314	309	337
75°	178	176	171	164	167	190
85°	44	42	41	38	37	51
90°	0	0	0	0	0	

TEST NUMBER: P929947

CATALOG NUMBER: DFN2DS-4P4F0-030DS950-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1103.1	1103.1	1103.1	1103.1	1103.1
2.5°	1109.5	1104.2	1092.5	1103.1	1101.1
5°	1103.1	1098.9	1087.2	1095.7	1093.6
7.5°	1095.7	1089.4	1077.7	1086.3	1084.1
10°	1084.1	1076.6	1064.0	1072.4	1069.3
12.5°	1068.1	1061.8	1049.1	1054.3	1052.3
15°	1050.1	1043.8	1030.0	1034.2	1028.9
17.5°	1027.8	1021.5	1007.7	1012.9	1007.7
20°	1003.4	997.1	982.2	985.4	981.2
22.5°	979.1	969.6	955.7	955.7	953.5
25°	950.4	942.0	923.9	926.0	923.9
27.5°	918.5	911.1	897.4	894.3	889.0
30°	886.8	878.3	862.4	859.2	854.9
32.5°	852.9	846.5	829.5	823.1	818.8
35°	820.0	809.4	792.4	786.0	780.7
37.5°	782.8	773.3	756.3	748.8	743.5
40°	744.7	736.2	719.1	709.7	705.4
42.5°	707.5	699.0	682.1	671.4	665.1
45°	667.3	659.8	643.8	632.2	628.0
47.5°	628.0	620.6	603.6	591.9	585.5
50°	586.6	581.3	566.4	551.6	546.3
52.5°	546.3	538.8	525.1	513.4	506.0
55°	505.0	498.6	485.8	473.2	467.9
57.5°	463.5	458.2	444.4	431.7	427.4
60°	422.1	418.0	403.1	391.4	388.3
62.5°	381.9	374.4	363.8	353.2	349.0
65°	340.6	334.2	323.6	314.0	308.7
67.5°	298.1	292.8	283.2	275.8	271.6
70°	258.8	254.6	245.0	237.6	233.4
72.5°	218.6	214.2	208.9	201.6	198.4
75°	178.1	176.1	170.8	164.4	166.6
77.5°	142.1	137.9	135.7	132.6	129.5
80°	106.1	105.0	102.8	99.7	97.6
82.5°	72.1	72.1	71.2	66.8	66.8
85°	43.5	42.4	41.4	38.2	37.1
87.5°	19.1	17.0	14.8	11.7	10.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P929947

CATALOG NUMBER: DFN2DS-4P4F0-030DS950-FLL

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	10.12	11.73	10.48	12.04	12.36	9.68	11.29	10.04	11.60	11.91
	3H	11.87	13.32	12.25	13.65	14.01	11.38	12.83	11.76	13.16	13.52
	4H	12.52	13.89	12.91	14.23	14.61	12.02	13.39	12.42	13.74	14.11
	6H	12.99	14.25	13.40	14.62	15.01	12.48	13.75	12.90	14.12	14.51
	8H	13.13	14.34	13.55	14.73	15.13	12.63	13.84	13.05	14.23	14.63
	12H	13.22	14.38	13.65	14.76	15.19	12.71	13.87	13.14	14.25	14.68
4H	2H	10.68	12.05	11.08	12.40	12.77	10.33	11.70	10.73	12.04	12.42
	3H	12.66	13.80	13.07	14.20	14.60	12.25	13.40	12.66	13.79	14.19
	4H	13.43	14.47	13.86	14.88	15.32	13.01	14.04	13.44	14.46	14.89
	6H	14.03	14.93	14.48	15.37	15.83	13.60	14.50	14.05	14.94	15.40
	8H	14.22	15.06	14.68	15.51	15.97	13.78	14.63	14.24	15.07	15.53
	12H	14.35	15.11	14.83	15.59	16.05	13.90	14.66	14.38	15.13	15.60
8H	4H	13.71	14.55	14.17	14.99	15.46	13.33	14.18	13.79	14.62	15.09
	6H	14.42	15.12	14.91	15.61	16.09	14.04	14.74	14.53	15.23	15.71
	8H	14.68	15.31	15.19	15.82	16.30	14.29	14.92	14.80	15.42	15.91
	12H	14.88	15.44	15.39	15.93	16.49	14.47	15.02	14.97	15.51	16.08
12H	4H	13.73	14.49	14.21	14.97	15.44	13.37	14.13	13.85	14.60	15.07
	6H	14.46	15.10	14.97	15.60	16.09	14.10	14.73	14.61	15.24	15.72
	8H	14.78	15.34	15.29	15.83	16.39	14.40	14.96	14.91	15.45	16.01