

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: P929821

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

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929821
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-4P2F0-030DS950-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

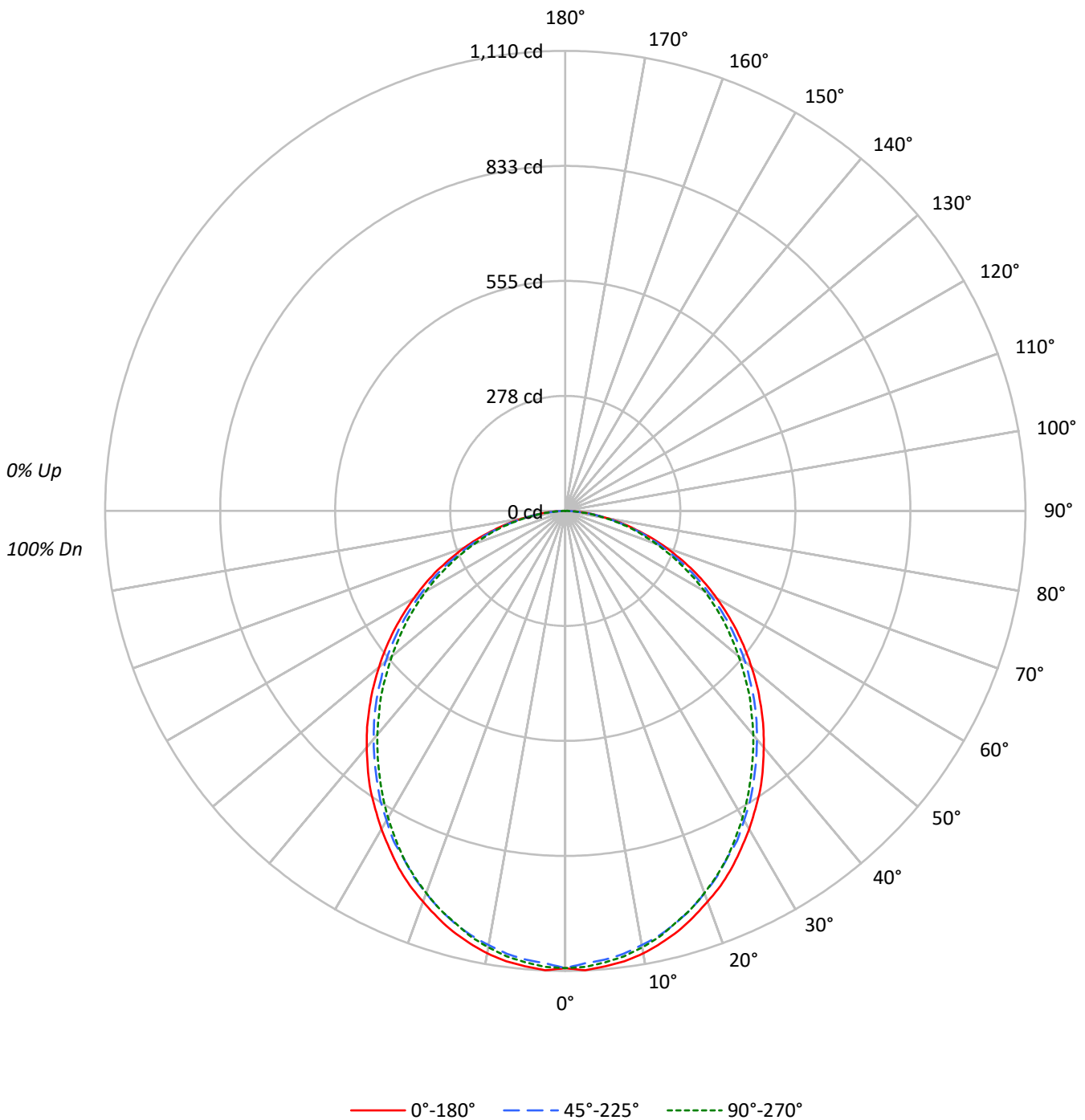
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2806.7 lumens
Efficiency: N/A
Efficacy: 92.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 30.3
Input Voltage (V): 120
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			0	
RW	70	50	30	10	70	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	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	73	73	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	62	62	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	54	54	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	47	47	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	41	41	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	37	37	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	33	33	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	30	30	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	27	27	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2762	2762	2762
5°	2773	2733	2749
10°	2756	2705	2719
15°	2722	2670	2667
20°	2674	2617	2615
25°	2626	2553	2553
30°	2564	2494	2472
35°	2507	2422	2386
40°	2434	2351	2306
45°	2363	2280	2224
50°	2285	2206	2128
55°	2205	2121	2043
60°	2114	2019	1945
65°	2018	1917	1829
70°	1895	1794	1709
75°	1723	1652	1612
80°	1530	1482	1407
85°	1250	1189	1066

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2363 cd/sqm



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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	



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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



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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	14.81	16.42	15.18	16.74	17.05	14.37	15.98	14.73	16.29	16.61
	3H	16.56	18.02	16.94	18.34	18.70	16.07	17.53	16.45	17.85	18.21
	4H	17.21	18.58	17.61	18.93	19.30	16.71	18.08	17.11	18.43	18.81
	6H	17.68	18.95	18.09	19.31	19.70	17.18	18.45	17.59	18.81	19.20
	8H	17.82	19.03	18.25	19.42	19.82	17.32	18.53	17.74	18.92	19.32
	12H	17.91	19.07	18.34	19.45	19.88	17.40	18.56	17.83	18.94	19.37
4H	2H	15.37	16.74	15.77	17.09	17.47	15.02	16.39	15.42	16.74	17.11
	3H	17.35	18.49	17.76	18.89	19.29	16.94	18.09	17.35	18.49	18.89
	4H	18.12	19.16	18.56	19.57	20.01	17.70	18.74	18.13	19.15	19.59
	6H	18.72	19.63	19.18	20.07	20.52	18.29	19.19	18.74	19.63	20.09
	8H	18.91	19.76	19.37	20.20	20.66	18.47	19.32	18.93	19.76	20.23
	12H	19.04	19.80	19.52	20.28	20.75	18.59	19.35	19.07	19.83	20.30
8H	4H	18.40	19.24	18.86	19.69	20.15	18.02	18.87	18.48	19.31	19.78
	6H	19.11	19.82	19.61	20.30	20.78	18.73	19.43	19.22	19.92	20.40
	8H	19.37	20.00	19.88	20.51	20.99	18.98	19.61	19.49	20.12	20.60
	12H	19.57	20.13	20.08	20.62	21.18	19.16	19.72	19.67	20.21	20.77
12H	4H	18.42	19.18	18.90	19.66	20.13	18.06	18.82	18.54	19.30	19.76
	6H	19.16	19.79	19.67	20.30	20.78	18.79	19.42	19.30	19.93	20.41
	8H	19.47	20.03	19.98	20.52	21.08	19.09	19.65	19.60	20.14	20.70