

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: P930830

Luminaire Tested: DFN2DS-SQ2F0-040DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930830
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-SQ2F0-040DS950-RLL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

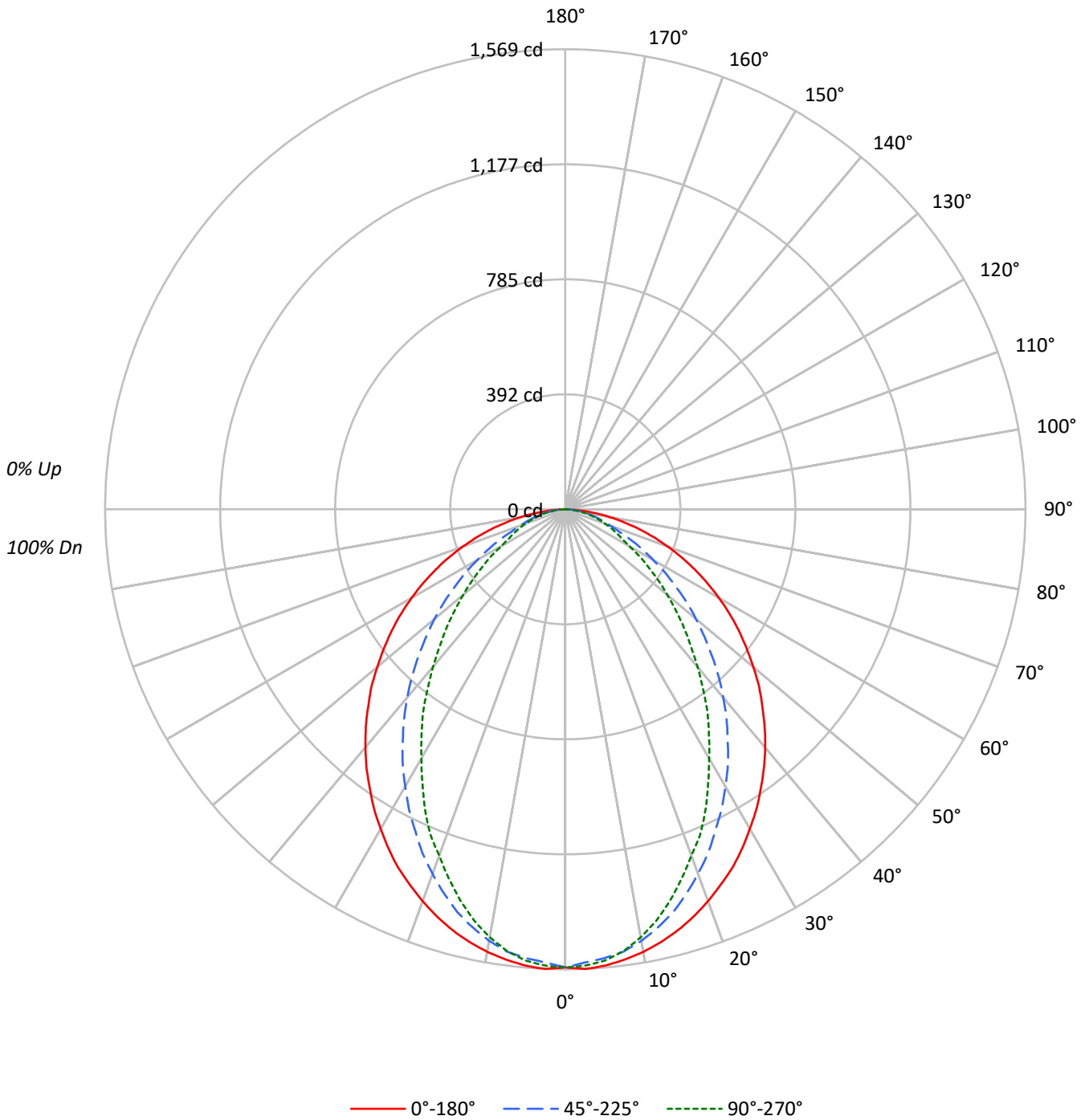
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3213.0 lumens
Efficiency: N/A
Efficacy: 85.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.21' x L: 2.21' x H: 0')
CIE Type: Direct

Input Watts (W): 37.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	76	76	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	66	66	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	57	57	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	51	51	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	45	45	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	41	41	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	37	37	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	34	34	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	31	31	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3435	3435	3435
5°	3448	3392	3411
10°	3422	3337	3309
15°	3383	3238	3145
20°	3328	3097	2941
25°	3272	2936	2744
30°	3195	2771	2491
35°	3120	2592	2269
40°	3044	2407	2013
45°	2955	2199	1781
50°	2863	1988	1553
55°	2770	1762	1334
60°	2661	1523	1107
65°	2538	1280	1007
70°	2391	1054	926
75°	2210	961	866
80°	1950	859	789
85°	1534	676	676

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2955 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.4	4.6
10°-20°	401.9	12.5
20°-30°	564.3	17.6
30°-40°	615.1	19.1
40°-50°	565.4	17.6
50°-60°	444.0	13.8
60°-70°	289.0	9.0
70°-80°	148.8	4.6
80°-90°	38.0	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°	1112.7	34.6
0°-40°	1727.8	53.8
0°-60°	2737.2	85.2
0°-90°	3213.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3213.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1562	1562	1562	1562	1562	
5°	1562	1555	1537	1550	1545	148
15°	1486	1470	1422	1396	1381	419
25°	1349	1304	1210	1152	1131	620
35°	1162	1090	966	877	845	727
45°	950	855	707	606	573	734
55°	722	612	460	375	348	646
65°	488	373	246	198	194	484
75°	260	161	113	103	102	275
85°	61	31	27	27	27	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1562.3	1562.3	1562.3	1562.3	1562.3
2.5°	1569.4	1562.3	1546.7	1561.0	1558.0
5°	1562.3	1555.2	1536.8	1549.5	1545.4
7.5°	1549.5	1541.1	1521.4	1526.8	1519.8
10°	1532.6	1522.7	1494.4	1490.1	1481.8
12.5°	1511.4	1498.7	1460.4	1452.0	1436.4
15°	1485.9	1470.3	1422.3	1395.5	1381.4
17.5°	1456.2	1433.6	1374.1	1343.1	1320.4
20°	1422.3	1394.0	1323.3	1288.0	1256.8
22.5°	1385.6	1353.1	1270.9	1222.9	1201.9
25°	1348.8	1303.5	1210.2	1152.3	1131.0
27.5°	1305.0	1256.8	1153.7	1087.2	1054.6
30°	1258.4	1204.5	1091.4	1019.4	981.2
32.5°	1213.1	1148.0	1032.1	947.3	911.8
35°	1162.3	1090.1	965.7	876.6	845.4
37.5°	1112.7	1034.9	903.4	805.8	770.6
40°	1060.4	975.6	838.4	738.0	701.3
42.5°	1006.6	916.2	773.4	668.7	633.4
45°	950.1	855.3	707.0	606.5	572.6
47.5°	896.4	796.1	643.4	542.9	511.8
50°	837.0	736.6	581.1	483.5	453.9
52.5°	779.0	672.9	521.7	428.4	401.5
55°	722.5	612.2	459.5	374.7	347.9
57.5°	664.5	551.4	404.4	325.2	302.6
60°	605.1	492.0	346.3	274.3	251.7
62.5°	547.2	434.1	296.8	229.1	217.8
65°	487.8	373.2	246.0	198.0	193.6
67.5°	431.3	316.7	198.0	173.9	169.6
70°	371.9	261.6	164.0	149.9	144.1
72.5°	315.3	210.6	137.1	125.9	123.0
75°	260.1	161.1	113.1	103.2	101.9
77.5°	205.1	114.4	89.1	83.4	80.5
80°	154.0	82.0	67.8	62.3	62.3
82.5°	107.4	55.2	46.7	43.8	43.8
85°	60.8	31.1	26.8	26.8	26.8
87.5°	22.7	11.2	11.2	9.9	9.9
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	15.52	17.04	15.89	17.36	17.67	11.48	13.00	11.85	13.32	13.63
	3H	17.29	18.65	17.67	18.98	19.34	12.75	14.11	13.13	14.44	14.80
	4H	17.95	19.23	18.35	19.58	19.96	13.25	14.53	13.65	14.88	15.26
	6H	18.44	19.63	18.86	19.99	20.38	13.63	14.81	14.04	15.18	15.57
	8H	18.61	19.73	19.03	20.12	20.53	13.76	14.88	14.18	15.27	15.67
	12H	18.71	19.79	19.14	20.17	20.60	13.84	14.91	14.27	15.30	15.73
4H	2H	15.63	16.91	16.03	17.26	17.63	12.18	13.46	12.58	13.81	14.19
	3H	17.56	18.62	17.97	19.02	19.42	13.62	14.68	14.03	15.08	15.49
	4H	18.31	19.27	18.74	19.68	20.12	14.22	15.18	14.65	15.59	16.03
	6H	18.90	19.73	19.36	20.18	20.64	14.71	15.54	15.17	15.98	16.44
	8H	19.12	19.89	19.58	20.34	20.80	14.87	15.65	15.33	16.09	16.56
	12H	19.27	19.96	19.75	20.44	20.91	14.99	15.68	15.47	16.16	16.63
8H	4H	18.33	19.11	18.80	19.55	20.02	14.57	15.35	15.04	15.80	16.26
	6H	18.97	19.61	19.47	20.10	20.58	15.16	15.80	15.66	16.30	16.77
	8H	19.22	19.80	19.73	20.31	20.80	15.38	15.96	15.90	16.47	16.96
	12H	19.43	19.94	19.93	20.43	20.99	15.56	16.07	16.07	16.56	17.13
12H	4H	18.32	19.01	18.80	19.49	19.96	14.62	15.31	15.10	15.79	16.26
	6H	18.95	19.53	19.47	20.04	20.53	15.23	15.80	15.74	16.31	16.80
	8H	19.24	19.75	19.75	20.24	20.80	15.50	16.01	16.01	16.50	17.07