

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: P929832

Luminaire Tested: DFN2DS-4P2F0-040DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929832
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-4P2F0-040DS927-RLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

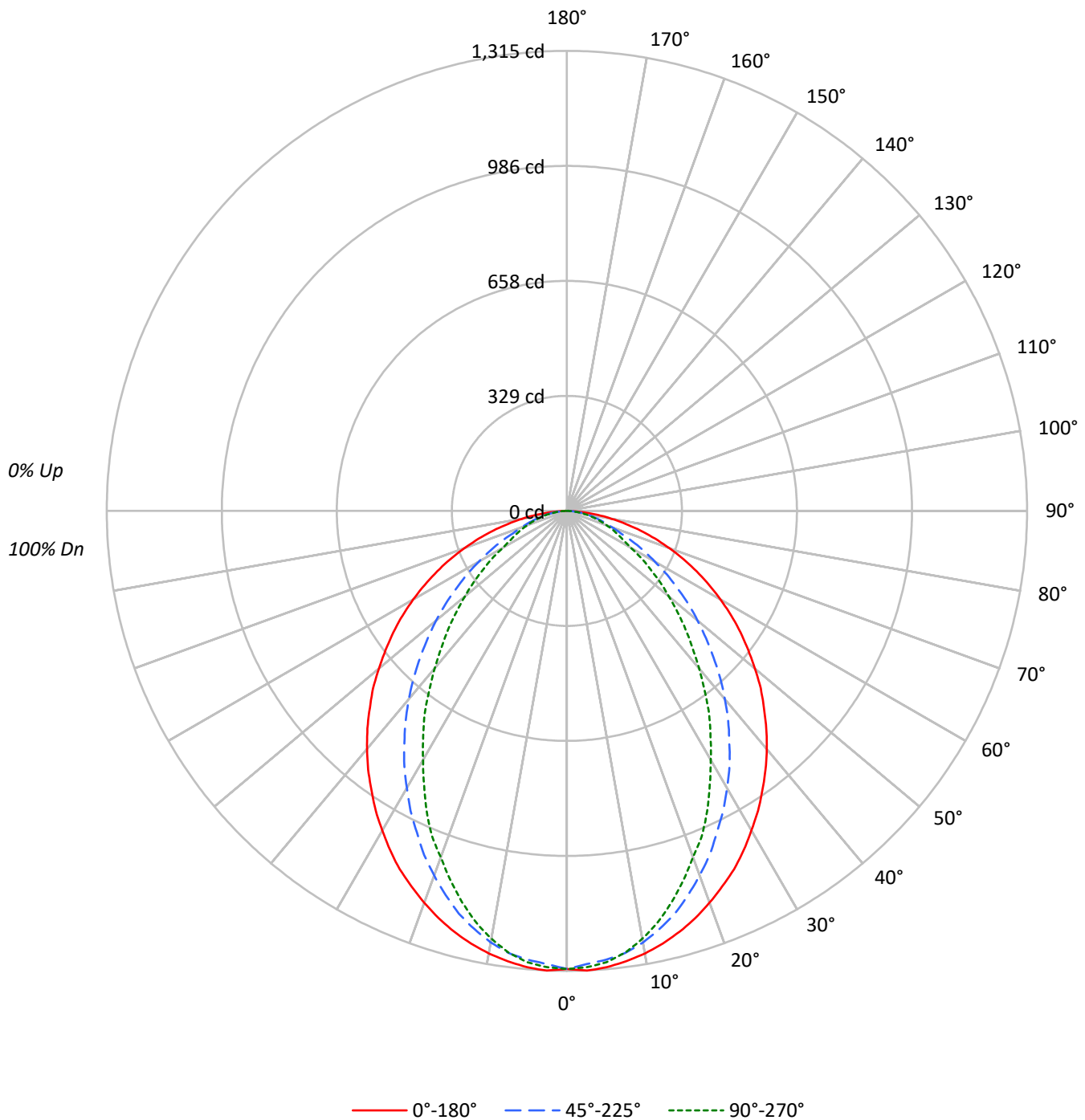
Lumens per Lamp: N/A
Luminaire Lumens: 2692.8 lumens
Efficiency: N/A
Efficacy: 62.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 43.1
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

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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°	3278	3278	3278
5°	3291	3237	3256
10°	3266	3185	3158
15°	3228	3090	3001
20°	3176	2955	2807
25°	3123	2802	2619
30°	3049	2645	2378
35°	2978	2474	2166
40°	2905	2297	1921
45°	2820	2098	1699
50°	2733	1897	1482
55°	2643	1681	1273
60°	2540	1454	1057
65°	2422	1222	962
70°	2282	1006	884
75°	2109	917	826
80°	1862	819	753
85°	1462	646	646

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2820 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.7	4.6
10°-20°	336.9	12.5
20°-30°	473.0	17.6
30°-40°	515.5	19.1
40°-50°	473.8	17.6
50°-60°	372.1	13.8
60°-70°	242.2	9.0
70°-80°	124.7	4.6
80°-90°	31.8	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°	932.5	34.6
0°-40°	1448.1	53.8
0°-60°	2294.1	85.2
0°-90°	2692.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2692.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1309	1309	1309	1309	1309	
5°	1309	1303	1288	1299	1295	124
15°	1245	1232	1192	1170	1158	351
25°	1130	1092	1014	966	948	520
35°	974	914	809	735	708	610
45°	796	717	592	508	480	615
55°	606	513	385	314	292	541
65°	409	313	206	166	162	405
75°	218	135	95	86	85	231
85°	51	26	22	22	22	61
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1309.3	1309.3	1309.3	1309.3	1309.3
2.5°	1315.3	1309.3	1296.3	1308.2	1305.8
5°	1309.3	1303.4	1288.0	1298.6	1295.2
7.5°	1298.6	1291.6	1275.0	1279.6	1273.8
10°	1284.5	1276.1	1252.5	1248.8	1241.9
12.5°	1266.7	1256.0	1224.0	1216.9	1203.8
15°	1245.3	1232.3	1192.0	1169.5	1157.7
17.5°	1220.5	1201.5	1151.6	1125.7	1106.7
20°	1192.0	1168.3	1109.0	1079.5	1053.4
22.5°	1161.2	1134.0	1065.2	1024.9	1007.3
25°	1130.4	1092.5	1014.2	965.8	947.9
27.5°	1093.8	1053.4	966.9	911.2	883.9
30°	1054.6	1009.5	914.7	854.3	822.3
32.5°	1016.7	962.1	865.0	793.9	764.2
35°	974.1	913.6	809.3	734.7	708.5
37.5°	932.6	867.3	757.2	675.3	645.8
40°	888.7	817.7	702.7	618.6	587.7
42.5°	843.6	767.8	648.2	560.4	530.9
45°	796.3	716.8	592.5	508.3	479.9
47.5°	751.3	667.2	539.2	455.0	428.9
50°	701.5	617.4	487.0	405.2	380.4
52.5°	652.8	564.0	437.3	359.0	336.5
55°	605.5	513.1	385.1	314.0	291.5
57.5°	556.9	462.1	338.9	272.5	253.6
60°	507.1	412.3	290.3	229.9	211.0
62.5°	458.6	363.8	248.8	192.0	182.6
65°	408.8	312.8	206.2	165.9	162.3
67.5°	361.5	265.4	165.9	145.7	142.2
70°	311.7	219.2	137.4	125.6	120.8
72.5°	264.3	176.5	114.9	105.5	103.1
75°	218.0	135.0	94.8	86.5	85.4
77.5°	171.9	95.9	74.7	69.9	67.5
80°	129.1	68.7	56.8	52.2	52.2
82.5°	90.1	46.3	39.1	36.7	36.7
85°	50.9	26.1	22.5	22.5	22.5
87.5°	19.0	9.4	9.4	8.3	8.3
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	15.36	16.88	15.72	17.19	17.51	11.32	12.84	11.68	13.16	13.47
	3H	17.13	18.49	17.50	18.82	19.18	12.59	13.95	12.96	14.28	14.64
	4H	17.79	19.07	18.19	19.42	19.80	13.09	14.37	13.49	14.72	15.10
	6H	18.28	19.46	18.69	19.83	20.22	13.47	14.65	13.88	15.02	15.41
	8H	18.45	19.57	18.87	19.96	20.36	13.59	14.72	14.02	15.11	15.51
	12H	18.55	19.63	18.98	20.01	20.44	13.67	14.75	14.10	15.13	15.56
4H	2H	15.46	16.74	15.86	17.09	17.47	12.02	13.30	12.42	13.65	14.02
	3H	17.40	18.46	17.81	18.86	19.26	13.46	14.52	13.87	14.92	15.32
	4H	18.15	19.10	18.58	19.52	19.96	14.06	15.02	14.49	15.43	15.87
	6H	18.74	19.57	19.20	20.01	20.47	14.55	15.38	15.00	15.82	16.28
	8H	18.95	19.73	19.42	20.17	20.64	14.71	15.49	15.17	15.93	16.40
	12H	19.11	19.80	19.59	20.28	20.75	14.83	15.52	15.31	16.00	16.47
8H	4H	18.17	18.95	18.63	19.39	19.86	14.41	15.19	14.88	15.63	16.10
	6H	18.81	19.45	19.31	19.94	20.42	15.00	15.64	15.50	16.13	16.61
	8H	19.06	19.64	19.57	20.15	20.63	15.22	15.80	15.73	16.31	16.79
	12H	19.26	19.77	19.77	20.27	20.83	15.40	15.91	15.91	16.40	16.97
12H	4H	18.16	18.85	18.64	19.33	19.80	14.46	15.15	14.94	15.63	16.10
	6H	18.79	19.37	19.30	19.88	20.36	15.06	15.64	15.58	16.15	16.64
	8H	19.07	19.58	19.58	20.08	20.64	15.34	15.85	15.85	16.34	16.90