

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: P929810

Luminaire Tested: DFN2DS-4P2F0-030DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929810
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-4P2F0-030DS840-RLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

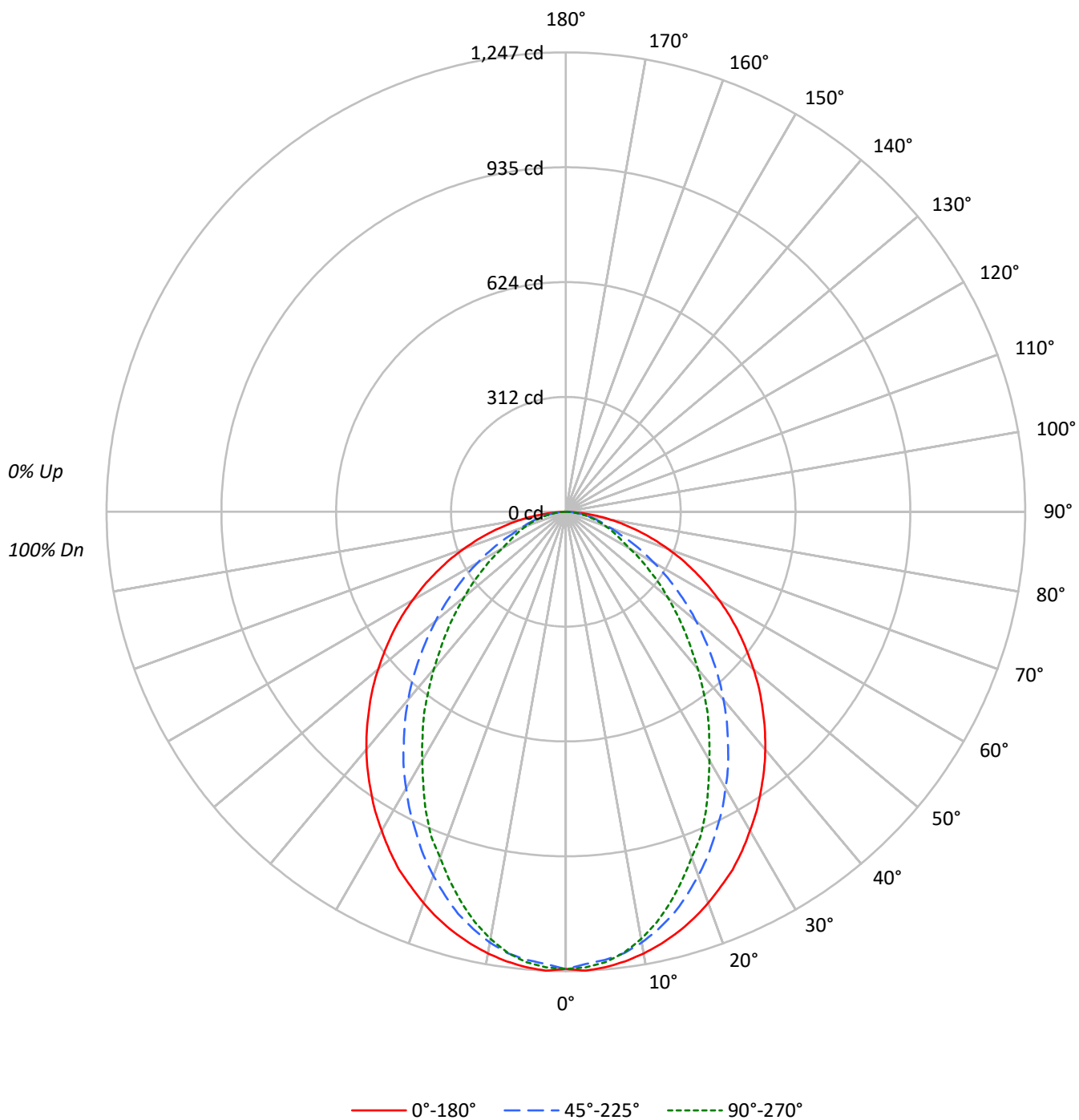
Lumens per Lamp: N/A
Luminaire Lumens: 2552.5 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	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	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	76	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	66	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	57	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	51	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	45	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	41	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	37	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	34	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	31	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3108	3108	3108
5°	3120	3069	3086
10°	3096	3019	2993
15°	3060	2929	2845
20°	3011	2801	2661
25°	2961	2656	2482
30°	2890	2507	2254
35°	2822	2345	2053
40°	2754	2177	1821
45°	2673	1989	1611
50°	2591	1799	1405
55°	2505	1593	1207
60°	2407	1378	1002
65°	2296	1158	912
70°	2163	953	838
75°	1999	870	783
80°	1765	777	712
85°	1385	612	612

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2673 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.3	4.6
10°-20°	319.3	12.5
20°-30°	448.3	17.6
30°-40°	488.7	19.1
40°-50°	449.2	17.6
50°-60°	352.7	13.8
60°-70°	229.6	9.0
70°-80°	118.2	4.6
80°-90°	30.2	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°	884.0	34.6
0°-40°	1372.7	53.8
0°-60°	2174.6	85.2
0°-90°	2552.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2552.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1241	1241	1241	1241	1241	
5°	1241	1236	1221	1231	1228	118
15°	1180	1168	1130	1109	1097	333
25°	1072	1036	962	915	898	493
35°	923	866	767	696	672	578
45°	755	680	562	482	455	583
55°	574	486	365	298	276	513
65°	388	296	195	157	154	384
75°	207	128	90	82	81	219
85°	48	25	21	21	21	58
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1241.1	1241.1	1241.1	1241.1	1241.1
2.5°	1246.7	1241.1	1228.7	1240.0	1237.8
5°	1241.1	1235.5	1220.9	1231.0	1227.6
7.5°	1231.0	1224.3	1208.6	1213.0	1207.4
10°	1217.5	1209.7	1187.3	1183.8	1177.2
12.5°	1200.7	1190.6	1160.3	1153.6	1141.1
15°	1180.5	1168.1	1129.9	1108.6	1097.4
17.5°	1156.9	1138.9	1091.7	1067.1	1049.0
20°	1129.9	1107.4	1051.3	1023.3	998.5
22.5°	1100.8	1074.9	1009.7	971.6	954.8
25°	1071.6	1035.5	961.5	915.4	898.5
27.5°	1036.7	998.5	916.5	863.8	837.8
30°	999.7	957.0	867.1	809.9	779.5
32.5°	963.7	912.0	820.0	752.6	724.4
35°	923.3	866.0	767.2	696.4	671.7
37.5°	884.0	822.1	717.7	640.1	612.2
40°	842.4	775.1	666.1	586.3	557.2
42.5°	799.7	727.9	614.4	531.2	503.2
45°	754.9	679.5	561.7	481.8	454.9
47.5°	712.1	632.4	511.1	431.2	406.6
50°	665.0	585.2	461.7	384.1	360.6
52.5°	618.8	534.6	414.5	340.3	319.0
55°	573.9	486.3	365.0	297.7	276.4
57.5°	527.9	438.0	321.3	258.4	240.3
60°	480.7	390.9	275.2	217.9	200.0
62.5°	434.7	344.8	235.8	182.0	173.1
65°	387.5	296.5	195.4	157.3	153.9
67.5°	342.6	251.6	157.3	138.1	134.7
70°	295.4	207.8	130.2	119.0	114.5
72.5°	250.5	167.3	108.9	100.0	97.7
75°	206.6	128.0	89.9	82.0	80.9
77.5°	162.9	90.9	70.8	66.3	64.0
80°	122.4	65.2	53.9	49.4	49.4
82.5°	85.3	43.8	37.0	34.8	34.8
85°	48.2	24.6	21.3	21.3	21.3
87.5°	18.0	8.9	8.9	7.9	7.9
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	15.17	16.70	15.54	17.01	17.32	11.14	12.66	11.50	12.97	13.29
	3H	16.94	18.30	17.32	18.63	18.99	12.40	13.77	12.78	14.09	14.45
	4H	17.61	18.89	18.01	19.23	19.61	12.90	14.18	13.30	14.53	14.91
	6H	18.09	19.28	18.51	19.64	20.04	13.28	14.47	13.69	14.83	15.22
	8H	18.26	19.39	18.69	19.78	20.18	13.41	14.53	13.83	14.92	15.32
	12H	18.36	19.44	18.79	19.82	20.25	13.49	14.57	13.92	14.95	15.38
4H	2H	15.28	16.56	15.68	16.91	17.29	11.83	13.11	12.23	13.46	13.84
	3H	17.21	18.27	17.62	18.67	19.07	13.27	14.34	13.68	14.74	15.14
	4H	17.96	18.92	18.39	19.33	19.77	13.87	14.83	14.31	15.24	15.68
	6H	18.55	19.38	19.01	19.83	20.29	14.36	15.19	14.82	15.64	16.09
	8H	18.77	19.54	19.23	19.99	20.46	14.52	15.30	14.99	15.74	16.21
	12H	18.92	19.61	19.40	20.09	20.56	14.64	15.33	15.12	15.81	16.28
8H	4H	17.98	18.76	18.45	19.21	19.67	14.23	15.00	14.69	15.45	15.92
	6H	18.62	19.26	19.12	19.76	20.23	14.81	15.46	15.31	15.95	16.42
	8H	18.87	19.45	19.39	19.96	20.45	15.03	15.61	15.55	16.12	16.61
	12H	19.08	19.59	19.59	20.08	20.64	15.21	15.72	15.72	16.21	16.78
12H	4H	17.97	18.66	18.45	19.14	19.61	14.27	14.96	14.75	15.44	15.91
	6H	18.60	19.18	19.12	19.69	20.18	14.88	15.45	15.39	15.96	16.45
	8H	18.89	19.40	19.40	19.89	20.45	15.15	15.66	15.66	16.15	16.72