

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: P929811

Luminaire Tested: DFN2DS-4P2F0-030DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929811
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-4P2F0-030DS850-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

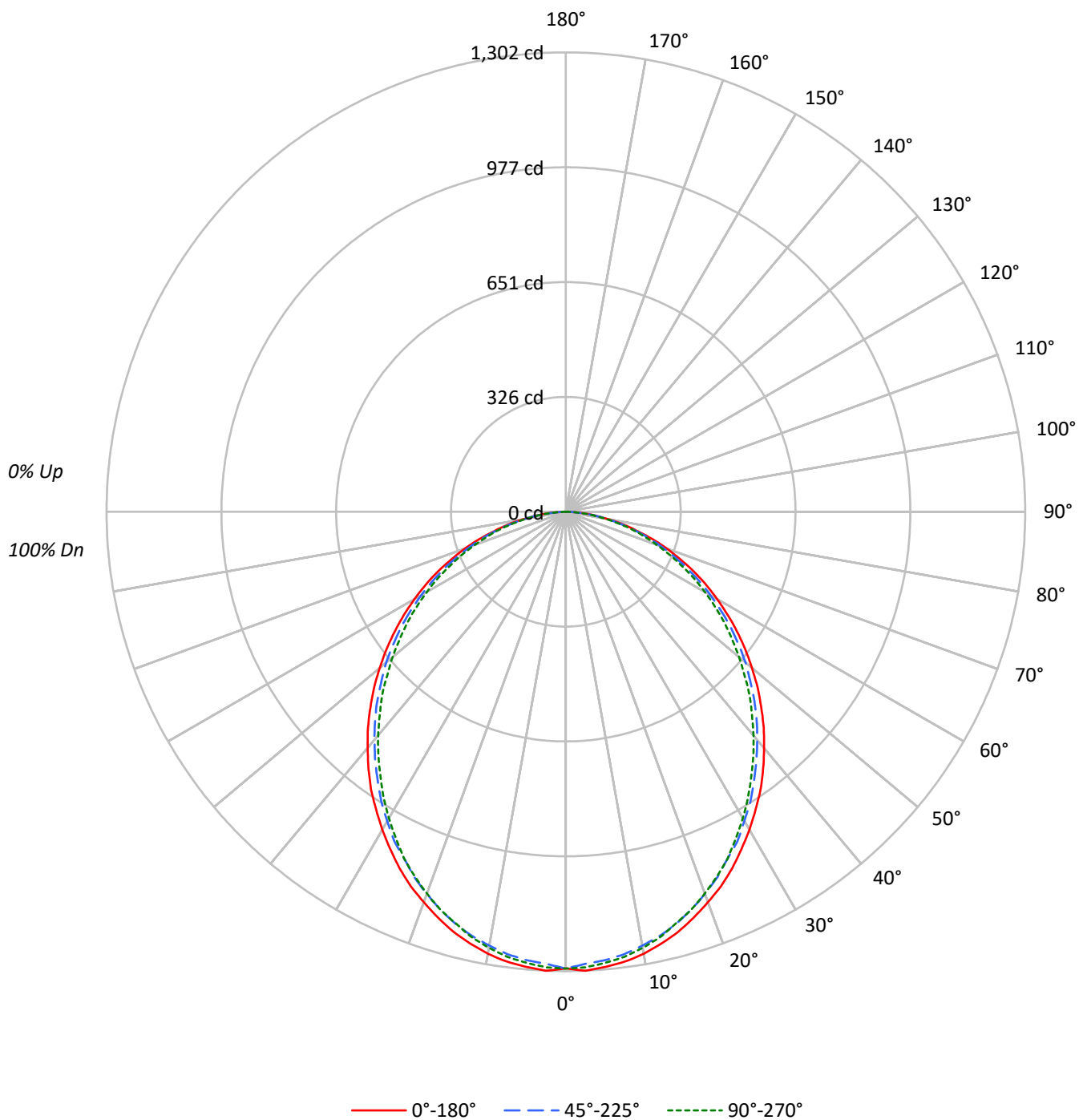
Lumens per Lamp: N/A
Luminaire Lumens: 3293.8 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3241	3241	3241
5°	3254	3207	3226
10°	3235	3175	3190
15°	3195	3133	3130
20°	3138	3072	3068
25°	3081	2996	2996
30°	3009	2926	2901
35°	2942	2843	2800
40°	2857	2758	2706
45°	2773	2676	2609
50°	2682	2589	2497
55°	2587	2489	2397
60°	2481	2369	2282
65°	2368	2250	2147
70°	2224	2106	2005
75°	2022	1939	1891
80°	1795	1740	1653
85°	1465	1396	1253

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2773 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.8	3.7
10°-20°	342.8	10.4
20°-30°	503.8	15.3
30°-40°	585.2	17.8
40°-50°	584.4	17.7
50°-60°	509.6	15.5
60°-70°	376.7	11.4
70°-80°	213.1	6.5
80°-90°	56.3	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°	968.5	29.4
0°-40°	1553.6	47.2
0°-60°	2647.7	80.4
0°-90°	3293.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3293.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1294	1294	1294	1294	1294	
5°	1294	1290	1276	1286	1283	123
15°	1232	1225	1209	1214	1208	347
25°	1115	1106	1084	1087	1084	513
35°	962	950	930	922	916	601
45°	783	774	756	742	737	604
55°	593	585	570	555	549	530
65°	400	392	380	368	362	395
75°	209	207	200	193	196	223
85°	51	50	49	45	44	60
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1294.5	1294.5	1294.5	1294.5	1294.5
2.5°	1302.1	1295.9	1282.1	1294.5	1292.2
5°	1294.5	1289.7	1275.9	1285.9	1283.4
7.5°	1285.9	1278.5	1264.7	1274.8	1272.2
10°	1272.2	1263.5	1248.6	1258.5	1254.8
12.5°	1253.5	1246.1	1231.2	1237.3	1234.9
15°	1232.3	1225.0	1208.7	1213.7	1207.5
17.5°	1206.1	1198.8	1182.5	1188.7	1182.5
20°	1177.5	1170.1	1152.7	1156.4	1151.5
22.5°	1149.0	1137.8	1121.5	1121.5	1119.0
25°	1115.3	1105.5	1084.3	1086.7	1084.3
27.5°	1077.9	1069.2	1053.1	1049.4	1043.2
30°	1040.7	1030.7	1012.1	1008.3	1003.3
32.5°	1000.9	993.4	973.5	965.9	960.9
35°	962.3	949.9	929.9	922.4	916.1
37.5°	918.7	907.5	887.5	878.8	872.6
40°	873.9	863.9	843.9	832.9	827.9
42.5°	830.3	820.3	800.5	787.9	780.5
45°	783.1	774.3	755.6	741.9	736.9
47.5°	736.9	728.3	708.3	694.6	687.1
50°	688.4	682.1	664.7	647.3	641.1
52.5°	641.1	632.4	616.3	602.5	593.8
55°	592.6	585.1	570.1	555.3	549.1
57.5°	544.0	537.8	521.6	506.6	501.6
60°	495.4	490.5	473.1	459.3	455.7
62.5°	448.1	439.4	427.0	414.5	409.6
65°	399.7	392.1	379.7	368.5	362.3
67.5°	349.9	343.6	332.4	323.7	318.7
70°	303.8	298.8	287.6	278.8	273.9
72.5°	256.5	251.4	245.2	236.5	232.9
75°	209.0	206.7	200.4	193.0	195.5
77.5°	166.8	161.8	159.3	155.6	151.9
80°	124.5	123.2	120.7	117.0	114.6
82.5°	84.6	84.6	83.5	78.4	78.4
85°	51.0	49.8	48.6	44.8	43.6
87.5°	22.4	20.0	17.4	13.8	12.4
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	15.37	16.98	15.73	17.29	17.61	14.92	16.53	15.29	16.85	17.16
	3H	17.12	18.57	17.50	18.90	19.26	16.63	18.08	17.00	18.41	18.77
	4H	17.77	19.13	18.16	19.48	19.86	17.27	18.64	17.67	18.99	19.36
	6H	18.23	19.50	18.65	19.87	20.26	17.73	19.00	18.14	19.37	19.76
	8H	18.38	19.59	18.80	19.98	20.38	17.87	19.09	18.30	19.47	19.87
	12H	18.47	19.63	18.90	20.01	20.44	17.96	19.12	18.38	19.50	19.93
4H	2H	15.93	17.30	16.33	17.65	18.02	15.58	16.94	15.97	17.29	17.67
	3H	17.90	19.05	18.31	19.45	19.85	17.50	18.64	17.91	19.04	19.44
	4H	18.68	19.72	19.11	20.13	20.57	18.26	19.29	18.69	19.71	20.14
	6H	19.28	20.18	19.73	20.62	21.08	18.85	19.75	19.30	20.19	20.65
	8H	19.47	20.31	19.93	20.76	21.22	19.03	19.88	19.49	20.32	20.78
	12H	19.60	20.36	20.08	20.83	21.30	19.15	19.91	19.63	20.38	20.85
8H	4H	18.95	19.80	19.41	20.24	20.71	18.58	19.43	19.04	19.87	20.33
	6H	19.67	20.37	20.16	20.86	21.34	19.29	19.99	19.78	20.48	20.95
	8H	19.93	20.56	20.44	21.06	21.55	19.54	20.17	20.05	20.67	21.16
	12H	20.13	20.68	20.63	21.18	21.74	19.71	20.27	20.22	20.76	21.32
12H	4H	18.98	19.74	19.46	20.22	20.69	18.62	19.38	19.10	19.85	20.32
	6H	19.71	20.35	20.22	20.85	21.34	19.35	19.98	19.85	20.48	20.97
	8H	20.03	20.59	20.53	21.08	21.64	19.65	20.21	20.16	20.70	21.26