

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: P924774

Luminaire Tested: DFN2DIP-PN3F0-030D030US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924774
REPORT IS A COMBINATION OF REPORTS P899512 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D030US950-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

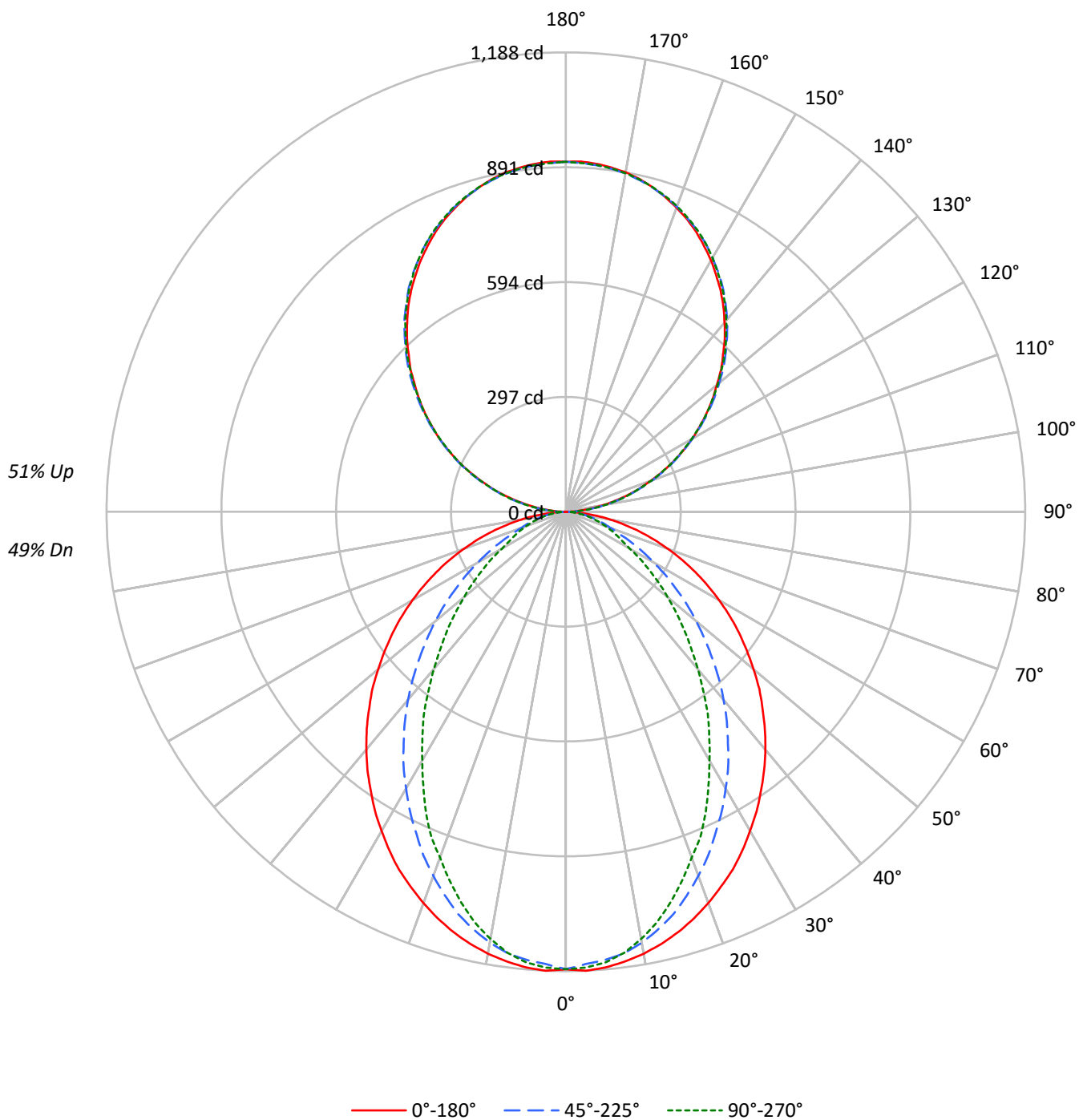
Lumens per Lamp: N/A
Luminaire Lumens: 4965.5 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 47.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1383	1383	1383
5°	1384	1360	1369
10°	1370	1332	1324
15°	1350	1287	1254
20°	1324	1226	1169
25°	1298	1157	1087
30°	1263	1086	984
35°	1228	1010	892
40°	1193	932	788
45°	1152	846	693
50°	1110	758	601
55°	1066	665	512
60°	1015	567	421
65°	956	468	378
70°	884	376	341
75°	794	330	309
80°	665	273	266
85°	451	178	196

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1152 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.9	2.2
10°-20°	304.3	6.1
20°-30°	427.3	8.6
30°-40°	465.7	9.4
40°-50°	428.1	8.6
50°-60°	336.2	6.8
60°-70°	218.8	4.4
70°-80°	112.6	2.3
80°-90°	31.3	0.6
90°-100°	56.0	1.1
100°-110°	178.0	3.6
110°-120°	304.6	6.1
120°-130°	400.5	8.1
130°-140°	449.6	9.1
140°-150°	440.9	8.9
150°-160°	369.8	7.4
160°-170°	245.3	4.9
170°-180°	85.7	1.7
0°-30°	842.5	17.0
0°-40°	1308.2	26.3
0°-60°	2072.5	41.7
0°-90°	2435.2	49.0
90°-120°	538.5	10.8
90°-150°	1829.5	36.8
90°-180°	2530.0	51.0
0°-180°	4965.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1183	1183	1183	1183	1183	
5°	1183	1178	1164	1173	1170	112
15°	1125	1113	1077	1057	1046	317
25°	1021	987	916	872	856	470
35°	880	825	731	664	640	551
45°	719	648	535	459	434	556
55°	547	464	348	284	263	489
65°	369	283	186	150	147	366
75°	197	122	86	78	77	208
85°	46	24	20	20	20	53
90°	1	10	27	25	26	5
95°	40	48	49	49	48	44
105°	164	166	168	169	169	173
115°	306	310	309	308	306	302
125°	445	451	449	447	446	397
135°	575	583	585	584	582	444
145°	698	704	708	709	706	436
155°	798	800	803	807	804	367
165°	868	868	868	873	869	245
175°	904	901	900	905	900	86
180°	905	905	905	905	905	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1182.9	1182.9	1182.9	1182.9	1182.9
2.5°	1188.2	1182.9	1171.0	1181.8	1179.7
5°	1182.9	1177.5	1163.6	1173.2	1170.0
7.5°	1173.2	1166.8	1151.9	1156.1	1150.7
10°	1160.4	1152.9	1131.5	1128.2	1121.9
12.5°	1144.3	1134.7	1105.8	1099.4	1087.6
15°	1125.1	1113.2	1076.9	1056.6	1045.9
17.5°	1102.5	1085.5	1040.4	1017.0	999.8
20°	1076.9	1055.4	1001.9	975.3	951.6
22.5°	1049.1	1024.4	962.3	926.0	909.9
25°	1021.3	986.9	916.3	872.4	856.3
27.5°	988.1	951.6	873.5	823.2	798.5
30°	952.8	912.0	826.4	771.9	742.9
32.5°	918.4	869.2	781.5	717.2	690.4
35°	880.0	825.3	731.1	663.7	640.1
37.5°	842.5	783.5	684.0	610.1	583.5
40°	802.9	738.7	634.8	558.8	531.0
42.5°	762.2	693.7	585.6	506.3	479.6
45°	719.4	647.6	535.3	459.2	433.5
47.5°	678.7	602.7	487.1	411.0	387.5
50°	633.7	557.7	440.0	366.0	343.6
52.5°	589.8	509.5	395.1	324.4	304.0
55°	546.9	463.5	347.8	283.7	263.4
57.5°	503.1	417.5	306.2	246.2	229.1
60°	458.1	372.5	262.3	207.7	190.6
62.5°	414.3	328.7	224.8	173.4	164.9
65°	369.3	282.6	186.2	149.9	146.6
67.5°	326.6	239.7	149.9	131.7	128.4
70°	281.5	198.1	124.1	113.4	109.1
72.5°	238.7	159.4	103.8	95.3	93.1
75°	196.9	122.0	85.7	78.1	77.1
77.5°	155.2	86.6	67.4	63.2	61.0
80°	116.7	62.1	51.3	47.1	47.1
82.5°	81.3	41.8	35.3	33.2	33.2
85°	46.0	23.5	20.3	20.3	20.3
87.5°	17.2	8.5	8.5	7.5	7.5
90°	0.9	9.8	26.7	25.1	25.9
92.5°	16.9	22.9	23.8	24.5	24.5
95°	39.9	47.5	48.8	48.8	47.5
97.5°	66.3	73.4	76.4	76.4	76.4
100°	96.8	103.1	105.3	105.3	104.6
102.5°	129.1	133.8	136.7	137.6	136.7
105°	164.3	166.5	168.1	169.4	169.4
107.5°	199.2	202.4	202.4	203.0	199.2
110°	233.1	237.5	237.5	237.5	235.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	269.6	274.3	273.4	271.2	269.6
115°	305.7	310.0	308.6	307.9	305.7
117.5°	341.3	347.4	343.5	341.3	339.1
120°	377.4	383.4	377.4	377.4	374.9
122.5°	410.1	417.8	413.9	411.7	410.1
125°	444.6	451.3	449.1	446.7	445.9
127.5°	478.0	486.5	483.6	480.2	478.0
130°	509.4	519.3	517.9	516.3	513.3
132.5°	544.6	552.3	552.8	549.0	546.8
135°	575.0	583.4	585.1	584.2	582.0
137.5°	608.7	615.6	617.0	616.5	613.1
140°	638.5	645.4	649.2	649.2	646.1
142.5°	669.1	675.9	678.1	679.0	675.9
145°	698.0	703.5	707.9	708.6	705.7
147.5°	724.0	730.8	734.0	735.4	732.4
150°	750.7	755.4	758.3	760.8	758.3
152.5°	774.5	779.0	782.9	785.9	782.9
155°	798.2	800.3	802.8	806.6	804.2
157.5°	818.6	820.2	821.7	827.1	823.3
160°	836.9	838.6	839.4	844.0	840.8
162.5°	853.8	853.8	854.7	859.8	856.0
165°	868.3	867.5	867.5	872.9	869.1
167.5°	881.4	878.9	878.9	884.4	880.5
170°	891.2	889.0	888.3	893.7	889.0
172.5°	898.0	895.9	895.0	900.5	895.9
175°	903.5	901.3	899.7	905.2	900.5
177.5°	906.5	904.3	902.7	907.3	902.7
180°	905.2	905.2	905.2	905.2	905.2

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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	8.14	8.96	9.11	9.95	11.23	4.11	4.93	5.08	5.91	7.20
	3H	9.81	10.55	10.80	11.54	12.85	5.29	6.03	6.27	7.02	8.33
	4H	10.42	11.11	11.41	12.11	13.42	5.74	6.43	6.73	7.42	8.74
	6H	10.83	11.47	11.84	12.47	13.80	6.05	6.69	7.06	7.69	9.02
	8H	10.96	11.57	11.97	12.58	13.91	6.14	6.75	7.15	7.76	9.09
	12H	11.02	11.59	12.03	12.60	13.95	6.18	6.76	7.20	7.77	9.12
4H	2H	8.16	8.85	9.16	9.85	11.17	4.70	5.39	5.70	6.39	7.71
	3H	9.98	10.56	10.99	11.58	12.91	6.04	6.62	7.05	7.64	8.97
	4H	10.67	11.19	11.69	12.21	13.57	6.58	7.11	7.60	8.13	9.48
	6H	11.18	11.63	12.20	12.67	14.02	7.00	7.45	8.03	8.49	9.84
	8H	11.35	11.77	12.38	12.80	14.17	7.12	7.55	8.15	8.58	9.94
	12H	11.44	11.82	12.49	12.87	14.24	7.18	7.56	8.23	8.61	9.98
8H	4H	10.63	11.06	11.66	12.09	13.45	6.86	7.28	7.89	8.32	9.68
	6H	11.19	11.54	12.25	12.61	13.98	7.37	7.72	8.42	8.79	10.16
	8H	11.40	11.71	12.47	12.77	14.15	7.56	7.86	8.62	8.92	10.31
	12H	11.54	11.81	12.60	12.86	14.29	7.67	7.94	8.73	8.99	10.42
12H	4H	10.58	10.97	11.63	12.01	13.38	6.86	7.25	7.91	8.29	9.66
	6H	11.17	11.47	12.23	12.53	13.91	7.42	7.72	8.48	8.78	10.17
	8H	11.38	11.65	12.45	12.71	14.13	7.62	7.89	8.69	8.95	10.37