

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: P926094

Luminaire Tested: DFN2DIP-TR2F0-020D040US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926094
REPORT IS A COMBINATION OF REPORTS P900242 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-020D040US950-RLLFLL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

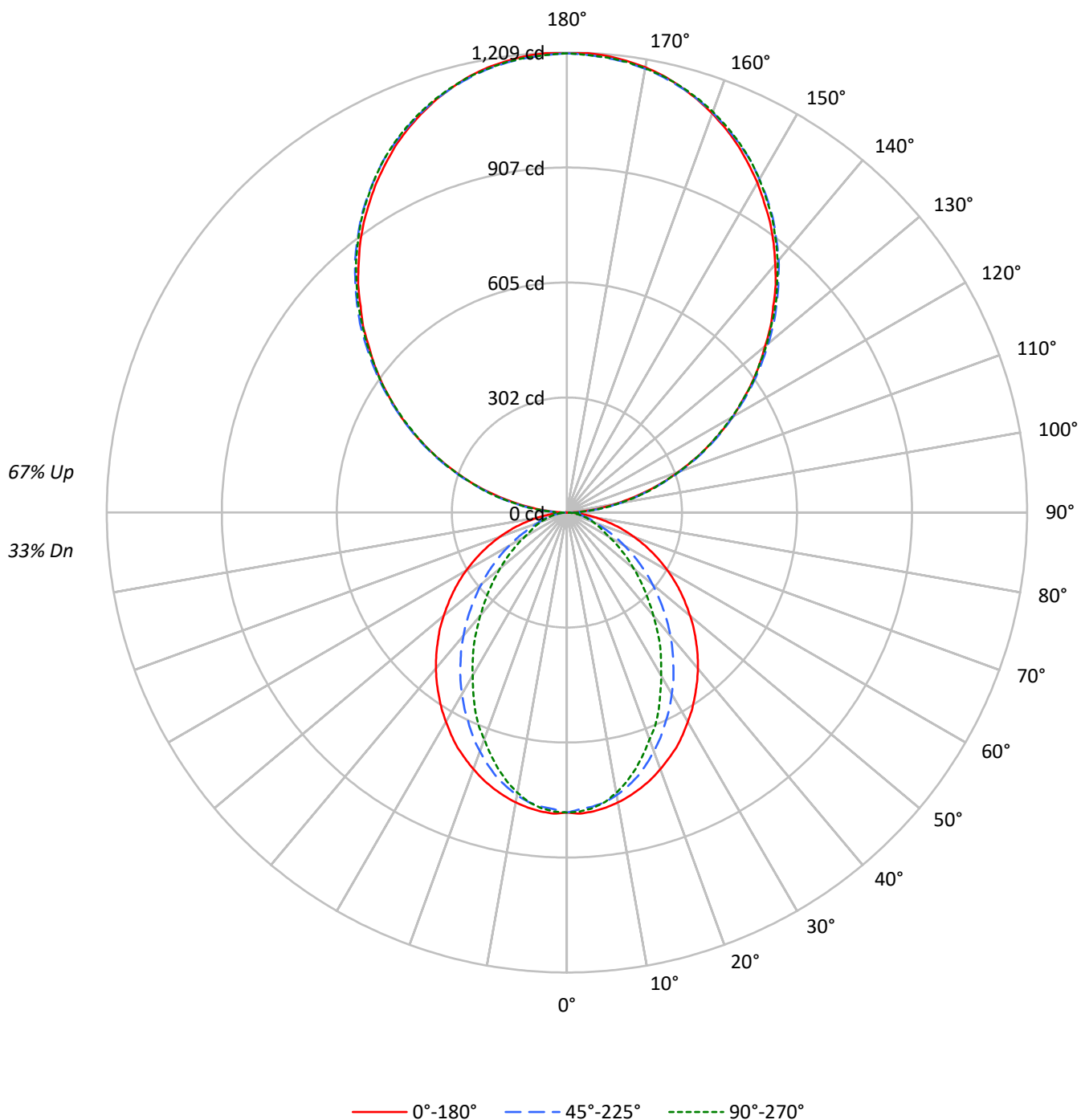
Lumens per Lamp: N/A
Luminaire Lumens: 4998.9 lumens
Efficiency: N/A
Efficacy: 112.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 44.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40
1	94	90	86	83	85	81	78	75	65	63	61	50	48	47	36	35	34
2	86	79	73	68	77	71	67	62	57	54	51	44	42	40	32	31	29
3	79	70	63	57	71	63	57	52	51	46	43	39	36	34	29	27	25
4	72	62	54	49	65	56	50	45	45	41	37	35	32	29	26	24	22
5	66	55	47	42	59	50	43	38	40	36	32	32	28	26	23	21	19
6	61	49	42	36	55	45	38	33	36	32	28	29	25	23	21	19	17
7	56	45	37	32	51	41	34	29	33	28	25	26	23	20	19	17	15
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14
9	49	37	30	25	44	34	27	23	28	23	20	22	19	16	17	14	13
10	45	34	27	22	41	31	25	21	25	21	18	20	17	15	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1759	1759	1759
5°	1759	1727	1739
10°	1739	1689	1679
15°	1712	1630	1589
20°	1678	1549	1479
25°	1643	1459	1374
30°	1597	1368	1240
35°	1551	1270	1123
40°	1505	1169	990
45°	1451	1058	869
50°	1396	945	751
55°	1337	826	638
60°	1270	702	523
65°	1191	576	467
70°	1096	458	419
75°	977	396	375
80°	806	322	316
85°	528	199	222

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1573 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.9	1.5
10°-20°	202.9	4.1
20°-30°	284.8	5.7
30°-40°	310.5	6.2
40°-50°	285.4	5.7
50°-60°	224.1	4.5
60°-70°	145.9	2.9
70°-80°	75.1	1.5
80°-90°	22.6	0.5
90°-100°	74.7	1.5
100°-110°	237.3	4.7
110°-120°	406.1	8.1
120°-130°	534.0	10.7
130°-140°	599.4	12.0
140°-150°	587.8	11.8
150°-160°	493.1	9.9
160°-170°	327.0	6.5
170°-180°	114.3	2.3
0°-30°	561.6	11.2
0°-40°	872.1	17.4
0°-60°	1381.7	27.6
0°-90°	1625.2	32.5
90°-120°	718.0	14.4
90°-150°	2439.3	48.8
90°-180°	3374.0	67.5
0°-180°	4998.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	789	789	789	789	789	
5°	789	785	776	782	780	75
15°	750	742	718	704	697	211
25°	681	658	611	582	571	313
35°	587	550	488	442	427	367
45°	480	432	357	306	289	370
55°	365	309	232	189	176	326
65°	246	188	124	100	98	244
75°	131	81	57	52	51	139
85°	31	16	14	14	14	35
90°	1	13	36	34	34	5
95°	53	63	65	65	63	59
105°	219	222	224	226	226	231
115°	408	413	412	410	408	403
125°	593	602	599	596	594	530
135°	767	778	780	779	776	593
145°	931	938	944	945	941	582
155°	1064	1067	1070	1076	1072	490
165°	1158	1157	1157	1164	1159	327
175°	1205	1202	1200	1207	1201	114
180°	1207	1207	1207	1207	1207	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	788.6	788.6	788.6	788.6	788.6
2.5°	792.1	788.6	780.7	787.9	786.5
5°	788.6	785.0	775.7	782.2	780.0
7.5°	782.2	777.9	767.9	770.7	767.1
10°	773.6	768.5	754.3	752.1	747.9
12.5°	762.9	756.4	737.2	733.0	725.0
15°	750.0	742.1	717.9	704.3	697.3
17.5°	735.1	723.6	693.7	677.9	666.6
20°	717.9	703.6	668.0	650.2	634.4
22.5°	699.4	683.0	641.6	617.3	606.6
25°	680.9	658.0	610.8	581.7	570.9
27.5°	658.7	634.4	582.3	548.7	532.3
30°	635.2	608.0	550.9	514.6	495.2
32.5°	612.3	579.5	521.0	478.1	460.3
35°	586.6	550.3	487.5	442.5	426.7
37.5°	561.6	522.3	456.0	406.8	388.9
40°	535.2	492.5	423.2	372.5	353.9
42.5°	508.1	462.5	390.4	337.5	319.8
45°	479.6	431.7	356.9	306.1	289.0
47.5°	452.5	401.8	324.7	274.0	258.3
50°	422.5	371.9	293.4	244.0	229.2
52.5°	393.1	339.6	263.3	216.3	202.7
55°	364.6	309.0	231.9	189.2	175.5
57.5°	335.4	278.3	204.2	164.2	152.7
60°	305.5	248.3	174.9	138.5	127.1
62.5°	276.2	219.1	149.9	115.6	109.9
65°	246.2	188.4	124.2	100.0	97.8
67.5°	217.7	159.8	100.0	87.8	85.7
70°	187.7	132.0	82.7	75.7	72.8
72.5°	159.1	106.3	69.2	63.5	62.1
75°	131.3	81.3	57.0	52.1	51.4
77.5°	103.5	57.8	44.9	42.1	40.6
80°	77.8	41.4	34.2	31.4	31.4
82.5°	54.2	27.9	23.6	22.1	22.1
85°	30.6	15.6	13.5	13.5	13.5
87.5°	11.4	5.7	5.7	5.0	5.0
90°	1.0	13.1	35.7	33.5	34.5
92.5°	22.5	30.5	31.7	32.7	32.7
95°	53.1	63.3	65.2	65.2	63.3
97.5°	88.4	97.9	101.9	101.9	101.9
100°	129.2	137.6	140.4	140.4	139.4
102.5°	172.1	178.3	182.3	183.4	182.3
105°	219.0	221.9	224.1	225.9	225.9
107.5°	265.6	270.0	270.0	270.6	265.6
110°	310.7	316.5	316.5	316.5	313.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	359.5	365.7	364.5	361.7	359.5
115°	407.5	413.4	411.5	410.4	407.5
117.5°	455.2	463.2	458.1	455.2	452.3
120°	503.2	511.2	503.2	503.2	499.9
122.5°	546.8	557.0	552.0	549.0	546.8
125°	592.7	601.8	598.9	595.6	594.5
127.5°	637.5	648.7	644.7	640.3	637.5
130°	679.2	692.4	690.6	688.4	684.4
132.5°	726.2	736.4	737.2	732.0	729.1
135°	766.6	777.9	780.1	778.9	776.1
137.5°	811.8	820.8	822.6	821.9	817.6
140°	851.3	860.5	865.6	865.6	861.6
142.5°	892.2	901.2	904.1	905.3	901.2
145°	930.7	938.0	943.8	944.9	940.9
147.5°	965.3	974.3	978.7	980.5	976.5
150°	1000.9	1007.1	1011.1	1014.4	1011.1
152.5°	1032.6	1038.7	1043.9	1047.9	1043.9
155°	1064.2	1067.1	1070.4	1075.5	1072.2
157.5°	1091.6	1093.7	1095.5	1102.8	1097.7
160°	1115.9	1118.1	1119.1	1125.3	1121.0
162.5°	1138.4	1138.4	1139.6	1146.4	1141.4
165°	1157.8	1156.6	1156.6	1163.9	1158.8
167.5°	1175.2	1171.9	1171.9	1179.2	1174.1
170°	1188.3	1185.3	1184.3	1191.5	1185.3
172.5°	1197.4	1194.5	1193.4	1200.7	1194.5
175°	1204.7	1201.8	1199.6	1206.8	1200.7
177.5°	1208.7	1205.8	1203.6	1209.8	1203.6
180°	1206.8	1206.8	1206.8	1206.8	1206.8

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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	7.08	7.78	8.18	8.88	10.38	3.06	3.77	4.16	4.86	6.36
	3H	8.72	9.35	9.83	10.45	11.97	4.23	4.86	5.33	5.96	7.48
	4H	9.31	9.91	10.43	11.01	12.54	4.66	5.26	5.78	6.36	7.89
	6H	9.71	10.26	10.83	11.36	12.90	4.96	5.51	6.09	6.62	8.15
	8H	9.82	10.34	10.95	11.46	12.99	5.04	5.56	6.17	6.68	8.21
	12H	9.87	10.36	11.00	11.48	13.03	5.07	5.57	6.20	6.68	8.24
4H	2H	7.08	7.68	8.20	8.78	10.30	3.63	4.23	4.75	5.33	6.86
	3H	8.87	9.37	10.00	10.49	12.03	4.95	5.45	6.08	6.58	8.11
	4H	9.54	9.99	10.67	11.11	12.67	5.48	5.94	6.61	7.05	8.61
	6H	10.02	10.41	11.16	11.56	13.11	5.87	6.26	7.01	7.41	8.96
	8H	10.18	10.55	11.32	11.68	13.25	5.99	6.36	7.13	7.49	9.05
	12H	10.26	10.59	11.42	11.73	13.30	6.04	6.37	7.20	7.52	9.09
8H	4H	9.49	9.86	10.63	10.99	12.56	5.74	6.10	6.88	7.23	8.80
	6H	10.03	10.33	11.19	11.50	13.07	6.23	6.53	7.39	7.70	9.26
	8H	10.23	10.49	11.39	11.65	13.23	6.40	6.67	7.57	7.82	9.40
	12H	10.34	10.58	11.51	11.73	13.34	6.50	6.73	7.67	7.89	9.50
12H	4H	9.44	9.77	10.59	10.91	12.48	5.73	6.06	6.89	7.21	8.78
	6H	10.00	10.26	11.17	11.42	13.00	6.27	6.53	7.44	7.69	9.27
	8H	10.20	10.43	11.37	11.58	13.20	6.46	6.69	7.63	7.84	9.46

END OF REPORT